# Army Knowledge Online (AKO) Strategic Plan

Version 2.0

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# APPENDICES

# Executive Summary

Knowledge Management (KM) is an integrated, systematic approach to identifying, managing, and sharing all of an enterprise's information assets, including databases, documents, policies and procedures, as well as previously unarticulated expertise and experience resident in individual workers. Fundamentally, KM makes the collective information and experience of an enterprise available to the individual knowledge worker, who is responsible for using it wisely and for replenishing the stock. This ongoing cycle encourages a learning organization, stimulates collaboration, and empowers people to continually enhance the way they perform work.

In the early 1990s, KM emerged in the professional arena as a key component of business success. With the increasing inundation of information, organizations looked to KM to cut through the sea of data and make sense of the chaos of modern business. Many organizations, across a spectrum of industries, rely on KM to power their operations.

In their book, *Workplace 2000, The Revolution Reshaping American Business*, Boyett and Conn make the following statement:

> Since Workplace 2000 will be characterized by a tremendous increase in the availability of information, success in the organization will flow to those who can effectively use the data presented to them to modify their own behavior or to identify new opportunities for the organization.

This statement has been validated by a recent study conducted by The Delphi Group that found an 82 percent increase in the number of organizations undertaking KM initiatives in the past year (from 28 percent in June 1997 to 51 percent in April 1998). This dramatic increase is fueled primarily by the desire of organizations to effectively manage their intellectual assets and use them to achieve competitive advantage.

Army Vision 2010 focuses on six aspects of achieving full spectrum dominance: Project the Force, Protect the Force, Shape the Battlespace, Decisive Operations, Sustain the Force, and Gain Information Dominance. The last aspect is fundamental to the success in each of the preceding aspects. The Army Electronic Commerce Strategic Plan established the overall direction and provided necessary guidance for managing the Army's Electronic Commerce resources in the attainment of Information Dominance. The Knowledge Management Strategic Plan is complementary to that plan and provides a roadmap to transform the Army institutional elements and operating forces into an information-age, networked organization that leverages its intellectual capital to better organize, train, and equip a strategic land combat Army force. Attainment of this vision will enable the Army to:

- Leverage historical actions and lessons learned

- Create a force multiplier to deal with downsizing

- Facilitate teamwork and collaboration

- Facilitate communication and decision making among Army leaders

- Foster bottom-up innovation and speed validation of re-engineered processes

- Enable Temporary Duty Assignment redesign based on flow of information

- Create the necessary culture for Army and Army After Next (AAN)

The *Army Knowledge Online (AKO) Strategic Plan* establishes the Army's shared vision for KM and its goals and objectives; identifies its roles and responsibilities; and enumerates tasks required to accomplish the goals. Specifically, the *Army Knowledge Online (AKO) Strategic Plan*:

- Provides a framework to embed KM competencies in the people, processes, and technical designs of the Army institutional elements and operating forces

- Establishes the processes and infrastructure to share knowledge and collaborate across the spectrum of functional and organizational lines

The Army KM vision and mission statement reflect the criteria for success in implementing the strategy.

- **Vision**—Transform the Army institutional elements and operating forces into an information-age, networked organization that leverages its intellectual capital to better organize, train, equip and maintain a strategic land combat Army Force.

- **Mission**—The mission of Army Knowledge Online is to institutionalize knowledge management into Army culture and processes to achieve a sustaining momentum that will carry it forward through the Army After Next. This will be accomplished through changes in organizational structure, facilities, people, processes, and technology.

To help realize the Army KM vision, goals and attendant objectives and tasks have been developed to provide the fundamental stepping stones upon which Army KM will be built. Objectives detail the basic elements required to achieve Army KM goals. The tasks are derived from the objectives and offer a framework for the broad actions needed to achieve each goal.

Six key goals will enable the Army to achieve its KM vision:

- **Goal 1**—Achieve cultural and business practice changes through leadership, guidance, education, and productive use of KM

- **Goal 2**—Develop a network-centric organizational structure that provides a central focus for AKO leadership and a decentralized focus for KM implementation

- **Goal 3**—Measurably improve business processes supporting the warfighter and Army readiness through AKO and KM

- **Goal 4**—Incorporate KM considerations into Army policy and strategic processes

- **Goal 5**—Achieve unimpeded but secure access to information

- **Goal 6**—Provide a robust, Army-wide Intranet capability for AKO to support the sharing of knowledge and collaboration across functional boundaries, including with other Services and DOD agencies

The Army KM objectives, those basic elements necessary to achieve the six key goals, include:

- **Objective 1**—Build necessary skills across the Army to apply KM processes and technology

- **Objective 2**—Integrate emerging KM methodologies with high cross-functional potential through the establishment of a central repository to capture and maintain initiative information and successful pilot projects

- **Objective 3**—Create a cross-functional collaborative environment for KM implementation that fosters the cultural changes necessary to conduct business electronically

- **Objective 4**—Acquire necessary resources to support implementation of Army KM initiatives and to identify, mentor, and learn from all Army organizations that experiment with or practice KM

- **Objective 5**—Empower process owners to implement performance-enhancing KM initiatives through pilot projects

- **Objective 6**—Develop, staff, and publish policy and procedures for the implementation of KM in the Army, and modify law, regulation and other policies that may impede appropriate implementation of KM principles

- **Objective 7**—Promote Army-wide KM technical standards, including information security, consistent with established Army and Department of Defense (DoD) standards

- **Objective 8**—Integrate KM practices into key Army processes across functional boundaries

Army KM tasks represent an integrated set of actions that describe how the Army KM goals and objectives will be accomplished over the near-, mid-, and long-term planning horizons. In the near-term AKO will develop, promote, and implement knowledge-based initiatives. The mid-term tasks include cross-functional integration, advocate funding, information sharing, and best business practices. Ultimately, the Army KM long-term task is to facilitate the sharing of the Army's collective knowledge and to enhance cross-functional collaboration in daily operations. In doing so, the Army will be agile and responsive to the needs of its digitized combat forces.

The AKO will operate as a virtual entity. As such, it will have two unique components, an Executive Steering Committee (ESC) and affiliated Knowledge Centers (KCs). Neither component follows traditional hierarchical authority lines in their composition or in their relationship to the AKO and each other. Both the ESC and the KCs will be supported by elements of Headquarters Department of the Army (HQDA) agencies, which will serve as the AKO Functional Proponent and as the AKO Materiel Developer.

The ESC will have Army-wide representation to provide strategic policy and direction for AKO in its implementation of Army KM. The AKO Functional Proponent will provide overall project management and perform many of the functions associated with a chief knowledge officer in the private sector. The AKO Materiel Developer will provide technical leadership on implementing KM solutions consistent with ESC direction. The AKO Materiel Developer will also provide an Army-wide Intranet capability to support AKO operations, develop AKO Web site templates, and provide common Army knowledge content for reuse.

The Major Commands (MACOMs), their subordinate organizations and activities, and other principal Army organizations will determine requirements and implement KM to serve their needs. The AKO Functional Proponent can provide the opportunity to expand and develop shared AKO capabilities to serve KM requirements spanning multiple organizations. The AKO Materiel Developer can provide technical support, and the ability to leverage the AKO infrastructure for new KM projects. This collaboration will enhance the sharing of best practices and lessons learned at the same time it will minimize duplicative infrastructure investments related to evolving KM communities.

It is essential to the success of AKO to include a rigorous measurement component. Performance measures for AKO must be established at the macro, intermediate, and micro level. The enterprise level (Army institutional elements and operating forces) is the

macro level, the MACOM headquarters is the intermediate level, and the user level (organization, activity, or AKO Knowledge Center, to include the pilot projects) is the micro level. This three-tiered approach is necessary to allow the Army leadership to determine the effectiveness of KM across the Army institutional elements and operating forces while allowing the MACOM and the user the opportunity to quantify the value added by individual KM projects.

The *Army Knowledge Online (AKO) Strategic Plan* provides a framework for the Army to achieve a transformation in how it leverages what it knows. Execution of this plan requires leadership engagement at all levels. In this regard, all levels of the Army must develop implementing plans that include specific knowledge-based initiatives to achieve our shared vision.

# Army Knowledge Online (AKO) Strategic Plan

## 1 Introduction

### 1.1 Purpose

Knowledge Management (KM) is an integrated, systematic approach to identifying, managing, and sharing all of an enterprise's information assets, including databases, documents, policies and procedures, as well as previously unarticulated expertise and experience resident in individual workers. Fundamentally, KM makes the collective information and experience of an enterprise available to the individual knowledge worker, who is responsible for using it wisely and for replenishing the stock. This ongoing cycle encourages a learning organization, stimulates collaboration, and empowers people to continually enhance the way they perform work.

The *Army Knowledge Online (AKO) Strategic Plan* provides a roadmap to achieving knowledge management (KM) competencies in the people, processes, and technical design of the Army institutional elements and operating forces. The AKO initiative is a key element of the transformation needed in the Army institutional elements and operating forces to meet current and future requirements of the rapidly changing Army. When the First Digitized Division (FDD) is fielded in 2000, creating a "knowledge and capabilities-based force organized around information and information technologies," the Army institutional elements and operating forces must be ready to support knowledge-based operations. When the first digitized corps is completed in 2004, the Army institutional elements and operating forces must also be a "digitized and network-centric organization" that has its own forms of situational awareness and information superiority. By 2015, in the "knowledge-centric" Army After Next (AAN), the Army institutional elements and operating forces must be transformed to meet an even higher requirement for support to the warfighter. Isolated examples exist in the Army of movement toward knowledge-based operations. However, there is no overarching strategy in the Army institutional elements and operating forces to develop the processes and infrastructure to share knowledge and collaborate across the spectrum of functional and organizational lines.

### 1.2 Background

The United States is in the midst of an enormous transformation. The transformation is from an industrial economy--with supply-driven command and control hierarchies, division of labor for mass production, lengthy planning cycles, and stable industry structures--to a post-Industrial information economy. Standardization, specialization, professionalization, synchronization, concentration, maximization, and centralization characterized the industrial age. "These principles gave us the kind of social, political, economic, and military world into which all of us were born and in which we all matured.

Applied, these traits resulted in the mass production, mass consumption, mass education, mass government, big business, scientific management, and corporate leadership with which we are all familiar."[1]  Political structures, industries, educational systems, and armies were organized, equipped, and trained to conform to the driving forces of the industrial model.  The driving forces of mass outputs, machines of standardized interchangeable parts and paced sequential long run production transformed business, war and government.[2]

The shift to the information age has brought with it a fundamental shift in the driving forces that generate change.  Communications between individuals, individual to corporation, corporation to state, state to state, and state to individual form the basis of all relationships within a given culture.  The power of the computer fueled by an explosive expansion of communication technologies has given people access to information that is profoundly affecting all those relationships.  Knowledge, unlike other commodities, changes and grows as it passes through individuals, groups, and the society as a whole.  Walter Wriston goes so far as to predict that as a result, our world will become more segmented and complex, and that both nations and corporations will have less power.[3]

Not only have communications networks and computing power been the technological driving forces in the rapid expansion of information, but also their capacity and power are expected to double every two to three years for the next several decades.[4]  Because of the communication network expansion and the increase in computing power, information-age tools of speed and precision are replacing the tools of the industrial-age of mass and standardization.  The rapid transfer of knowledge through people and organizations is forcing information-age organizations to more precisely identify needs and develop products to quickly and accurately meet those needs.  Industrial-age bureaucracies, with their emphasis on centralization, control, and mass standardization will not be able to match the speed demanded by the environment.  These trends drive society toward mass customization for products and services, and a changing distribution of power from centralized authority to decentralized regional or local authority. Networks and alliances will dominate cumbersome hierarchies.

Globally, organizations are responding to these challenges.  The virtual corporation is an important transitional state in the evolution toward another organizational form.  William Davidow and Michael Malone describe the virtual corporation as one that operates on an integrated network that includes highly skilled employees, but also suppliers, distributors, retailers, and even consumers.[5]  The core network technology of the virtual corporation is EDI (electronic data interchange); a technology that drives a hub-and-spoke

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[1] Gen. Gordon R. Sullivan and Colonel James M Dubik, *War in the Information Age.*, p2
[2] ibid, p.7
[3] Walter Wriston, *The Twilight of Sovereignty*
[4] Nicholas Negroponte, *Being Digital*, pp. 21-36.
[5] William Davidow and Michael Malone, *The Virtual Corporation*, p.8

model of industry structure.  In this form, the hub controls interactions and value-creation processes.

The final dimension of organizational transformation is a new kind of internet-worked enterprise.  As Don Tapscott describes it in the Digital Economy, "We are on the threshold of new digital economy in which the microprocessor and public networks on the Internet model enable fundamentally new kinds of institutional structure and relationships.  The firm as we know it is breaking up.  What's happening instead is this: effective individuals, working on high performance teams, becoming integrated organizational networks of clients and servers; which reach out to customers, suppliers, affinity groups, and even competitors; which move onto the public Net, changing the way products and services are created, marketed, and distributed."[6]  These internet-worked enterprises dramatically extend knowledge leveraging opportunities.  Internet technology--with its global 24X7 reach, public telecommunications access, platform independence, hyperlinked multimedia environment, low cost, and ease of use--enables a far wider and deeper participation in these electronic communities than is feasible in other organizational forms.  Such communities produce extraordinary volumes of valuable transactional information and user profile information.  Moreover, users not only consume, but also contribute information and knowledge.  The aggregation of this information into new patterns is an ever-increasing source of value-added service, competitive differentiation, and revenue.  The ability to manage corporate knowledge, the discipline of KM, is a critical competency for the globally competitive organization of the 21st century.

Success in the discipline of KM requires enterprises to fully leverage their intellectual capital: the collection of information, knowledge, and experience that allows them to perform their mission and to adapt to constantly changing requirements.  By managing intellectual capital effectively, organizations can create a climate where information sharing and continuous learning is a normal part of doing business.  KM takes a systematic approach to the creation and capture of knowledge organization-wide, and makes it available to individual knowledge workers and work groups, as they need it.  AKO is the first step in fully leveraging the Army's intellectual capital.

The Army realizes the need to fully develop the intellectual capital of its military and civilian personnel by establishing an AKO modeled after the capabilities established in industry.  The challenge is clear to the Army.  U. S. Army knowledge workers, globally, must be able to gain access to job-related and mission-oriented knowledge, information, and data that is timely and accurate.  The Army must continue to explore new information technology capabilities as it performs its current mission and as it seeks to become a more effective fighting force through concepts such as Army XXI and AAN. As the Army develops these tactical operating principles for the new environment, it must also extend those principles to the Army institutional elements and operating forces.

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[6] Don Tapscott, *The Digital Economy, p.91*

Enabling information technology  must be embedded into the installations of the future (Installation XXI and Installation After Next), in order to ensure Army XXI receives adequate support.  Soldiers must use the same digitally enhanced skills, qualities, and attributes in both tactical and institutional settings and in the execution of their duties at the strategic, operational, and tactical levels.

To meet the information explosion challenge and the need to empower the Army's Knowledge Workers (KW), the Chief of Staff, U. S. Army (CSA) established Army Online as the initial technical and management infrastructure.  The Army with industry partnership is firmly committed to the development of the capability and expertise for an Army Knowledge Online for the Army of the future.

## 2   Scope

This plan applies to the Army institutional elements and operating forces.  KM is envisioned to become an ongoing mission-critical Army capability to support achievement of Army XXI in the near-term, the Army Vision 2010 in the mid-term, and the AAN in the long-term.  To develop this capability, the AKO project initially encompasses five components:

- **The Army Home Page (AHP)**—functions as the graphic front end and web master for the Army's intranet. The Army Home Page has been designed to serve as a doorway into both the Army Intranet and Army Internet web pages.  This doorway provides a common access point and architecture for both Internet and Intranet.  Internally, the Army Home Page links authorized users with various internal web pages, including the Army Online Home Page.  Externally, the Army Home Page links military personnel and the public to various public Army web pages and facilitates the necessary communication from the Army to these critical audiences.

- **Army Online** —functions like a commercial Internet Services Provider on behalf of the Army's intranet. To meet the overall objectives of the AKO initiative it is essential that a robust, Army-wide Intranet capability for AKO be implemented to support the sharing of knowledge and collaboration across functional boundaries.  The responsibility for achieving this goal has been assumed by the Army Online (formerly the America's Army Online or A2O) component.  The services provided have been an extension of capabilities that have been delivered to general officers through the General Officer Management Office (GOMO).

  Access to each of the AKO Knowledge Center pilots is provided through the Army Online – Intranet Service capability.  Additionally, the capability provides access security through the issuance of a certificate; and chat functionality through the use of a COTS product.  To ensure adequate user support, the Intranet Services component provides a first tier help function that screens requests for

assistance and performs an initial triage function so they may be forwarded to the appropriate expert for resolution.

- **The Army Flow Model (AFM)**—functions as an analysis tool supporting "what if" scenarios. The Army Flow Model (AFM) component of the AKO initiative is an ongoing effort to develop and field a management analysis tool that allows Senior Leadership to examine the impact of policy decisions across the various functional areas of the Army over time. The AFM was conceived during Desert Shield/Story to support the CSA and VCSA in decision making. The AFM was developed using an Open Architecture with industry standard applications and COTS products. It was designed to provide both a quicker and more comprehensive view of the impact of proposed Army policies.

- **The HQDA Data Sharing Initiative (HDSI)**—functions as an Army-wide data repository or warehouse. (Details on this initiative are TBP.)

- **AKO KM Implementation and Support**—functions as the support mechanism for emerging Army Knowledge Centers. The AKO Project Office supports the implementation of KM practices within the Army. Since early 1998, the AKO project has provided both Knowledge Management consulting and technical expertise to develop and implement specific KM requirements and capabilities for each of the three pilot communities within the Army. This expertise has been applied through a customization of an industry KM support methodology depicted in Figure 2-1 below:
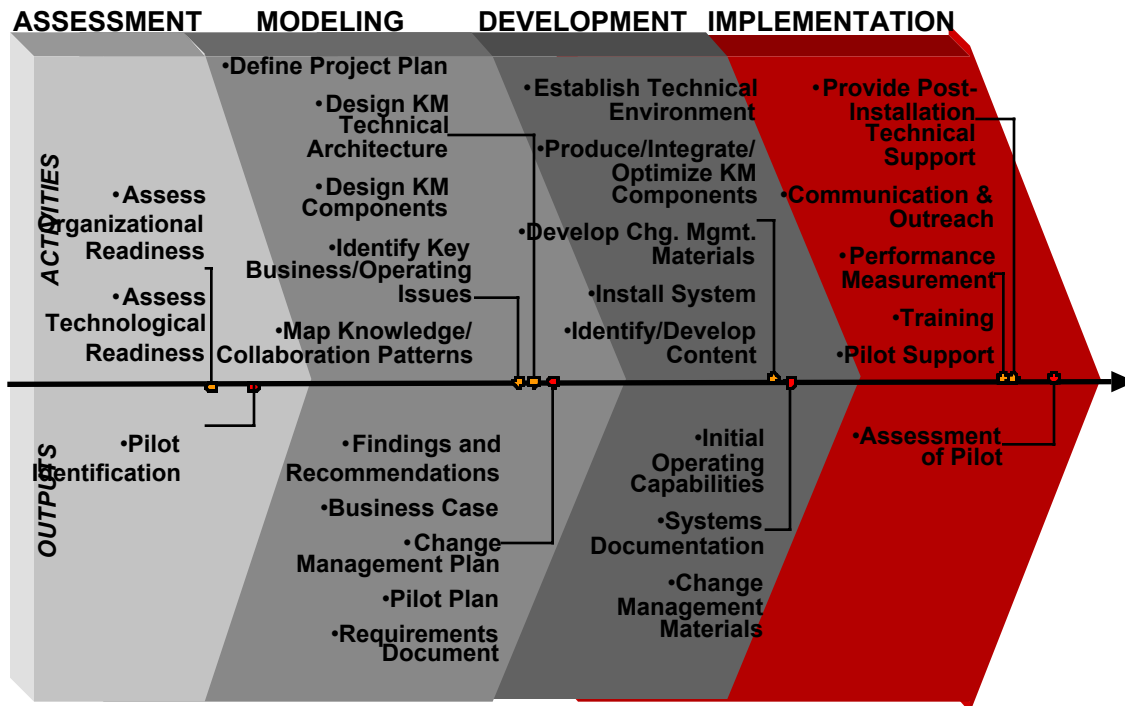
**Figure 2-1—KM Support Methodology**

The planning horizon for the strategy is through 2010.

## 3    Vision

The vision of AKO is to transform the Army institutional elements and operating forces into an information-age, networked organization that leverages its intellectual capital to better organize, train, and equip and maintain a strategic land combat Army Force.

## 4    Mission

The mission of Army Knowledge Online is to institutionalize knowledge management into Army culture and processes to achieve a sustaining momentum that will carry it forward through the Army After Next.  This will be accomplished through changes in organizational structure, facilities, people, processes, and technology.

## 5    Guiding Principles

The AKO strategy is based on principles that represent lessons learned from leading private and public sector organizations (including Army institutional elements and operating forces) that have successfully implemented KM:

- **Focus on key business needs**—KM initiatives should be targeted to improve organizational performance in key processes or otherwise have impact on key business outcomes.  If the focus is on less important areas, KM initiatives will not sustain the necessary support of executives and line workers.

- **Begin with pilot projects**—The way to build credibility and support for KM is to begin with projects that can be fielded and show results within 6 to 12 months.  Longer efforts risk loss of attention by key sponsors and workers.  Pilot projects scoped for manageable success in the near-term are best.  This approach builds momentum to expand pilots and to address other business areas.

- **Start with the basics**—Begin with projects designed to facilitate greater collaboration among workers who now form a community of interest (COI) or practice.  Leverage existing community cohesion to create KM capabilities that increase collaboration and expand the community. Develop libraries of knowledge content to meet needs as identified by the workers.  Introduce complex designs and sophisticated technologies only when the community is ready.

- **Use rapid prototyping**—Utilize rapid prototyping methods to field improved products to user communities.

- **Achieve a balanced strategy**—Develop an enterprise-wide strategy that centralizes the minimum functions, roles and responsibilities, and decentralizes to the maximum extent possible. Centralized focus on standards, enterprise knowledge architecture, common tools and templates, sharing of lessons learned, leveraging existing capabilities, and if feasible, providing seed money.

- **Use the formal organization**—Divide the enterprise into recognized communities, typically along formal functional organization lines at first, to begin decentralized design and implementation. This usually promotes acceptance. Foster cross-functional community formation as it emerges; avoid trying to force community development in a vacuum.

- **Create a KM governance structure**—Include all of the organizations to which the KM initiative will apply. Have a multi-tiered structure for large organizations, with an executive level group and one or more lower tier working group(s). Develop a charter describing purpose, membership, and other typical charter parameters.

- **Assess and embrace existing KM initiatives**—Define criteria for evaluating new or existing Army KM initiatives as a means of encouraging movement toward higher levels of KM sophistication. Criteria will address knowledge management processes (degree to which they reflect and support business objectives), as well as technologies (network and tool functionality, robustness, and security).

## 6   Goals and Objectives

### 6.1   Goals

Following are the goals of the AKO project. Parenthetical references indicate alignment with specific Force XXI imperatives.

- **Goal 1**—Achieve cultural and business practice changes through leadership, guidance, education, and productive use of KM *(Force XXI Imperative: Training)*

- **Goal 2**—Develop a network-centric organizational structure that provides a central focus for AKO leadership and a decentralized focus for KM implementation *(Force XXI Imperative: Force Mix)*

- **Goal 3**—Measurably improve business processes supporting the warfighter and Army readiness through AKO and KM

- **Goal 4**—Incorporate KM considerations into Army policy and strategic processes *(Force XXI Imperative: Doctrine)*

- **Goal 5**—Achieve unimpeded but secure access to information as authorized

- **Goal 6**—Provide a robust, Army-wide Intranet capability for AKO to support the sharing of knowledge and collaboration across functional boundaries, including with other Services and DOD agencies (*Force XXI Imperative: Equipment*)

## 6.2   Objectives

The AKO objectives are those elements necessary to achieve the parenthetically noted goal(s).

- **Objective 1**—Build necessary skills across the Army to apply KM (Goal 1)

- **Objective 2**—Integrate emerging KM methodologies with high cross-functional potential through the establishment of a central repository to capture and maintain initiative information and successful pilot projects (Goal 2)

- **Objective 3**—Create a cross-functional collaborative environment for KM implementation that fosters the cultural changes necessary to conduct business electronically  (Goal 2)

- **Objective 4**—Acquire necessary resources to support implementation of Army KM initiatives  (Goal 2)

- **Objective 5**—Empower process owners to implement performance-enhancing KM initiatives through pilot projects  (Goal 3)

- **Objective 6**—Develop, staff, and publish policy and procedures for the implementation of KM in the Army  (Goal 4)

- **Objective 7**—Promote Army-wide KM technical standards, including information security, consistent with established Army and DoD standards  (Goal 5)

- **Objective 8**—Integrate KM practices into key Army processes across functional boundaries (Goal 6, Goal 1)

## 7    Project Organization and Operational Overview

The AKO project will operate as a virtual entity consistent with the network- and knowledge-centric philosophy outlined in Section 1, Introduction.  Figure 7-1 – AKO Project Organization provides a depiction of this virtual entity.  The purpose of AKO is to foster the growth and expansion of an autonomous network that enables users to "know what we know." AKO will grow and adapt according to its environment, eliminating features and capabilities that are not productive while reinforcing and enhancing those that demonstrate value.

### 7.1    AKO Organization

This project will have a governing Executive Steering Committee (ESC).  The ESC will have Army-wide representation to provide strategic policy and direction for the project, with support from an AKO working group that mirrors the ESC membership.  The project's central component will be the associated communities of practice that leverage the AKO processes and tools.  These communities of practice, known as Knowledge Centers, eventually will exist throughout the Army.  Both the ESC and the Knowledge Centers will be supported by elements of Headquarters, Department of the Army (HQDA) agencies, which will serve as the AKO Functional Proponent and as the AKO Materiel Developer.

The AKO Functional Proponent will provide project management and perform many of those functions associated in the civilian sector with a chief knowledge officer.  The AKO Materiel Developer will provide technical leadership on how to implement KM consistent with ESC direction.  The AKO Materiel Developer will also provide an Army-wide Intranet capability to support AKO operations, develop AKO Web site templates, and provide common Army knowledge content for reuse.  The MACOMs, their subordinate organizations and activities, and other principal Army organizations will determine requirements and implement KM to serve the needs of their own Knowledge Centers.  They may work with the AKO Functional Proponent to develop AKO capabilities to serve KM requirements spanning multiple organizations.  Specific roles and responsibilities of the ESC, the AKO Functional Proponent, the AKO Materiel Developer, and the MACOMs are discussed in Section 8    AKO Roles and Responsibilities.

**Figure 7-1 – AKO Project Organization**

7.2    AKO Operational Overview

AKO will provide capabilities analogous to an Internet Service Provider (ISP), initially including content and collaboration capabilities.  Users will access an AO home page that contains links to two levels of knowledge and information content.  The first level will be content that has Army-wide applicability, such as policies, budgets, plans, official Army positions, points of contact (POCs), subject matter experts (SMEs), news services, research databases, and so forth.  Content developed both within and outside the Army will be included at this level.  The purpose is to develop or link to official content available in electronic format, rather than duplicate it, in order to avoid unnecessary development costs, confusion over location, and questions over validity or currency (i.e., version control).  At this time, the AHP has links to over 1,000 Army Web sites, many of which contain this type of official content.  The AHP will be integrated into AKO and organized into an intuitive knowledge architecture.  The AKO Materiel Developer will take the lead on developing the knowledge architecture and establishing the links to internal and external sites.  The AKO Functional Proponent will undertake the development of needed Army-wide content that does not exist. Security restrictions on this type of information will be minimal, as most items are widely published and appropriate for open access.

While the Army-wide content, by definition, will be available to all Army personnel as appropriate, there will be a second level of content that is restricted to authorized members of the Army community. Much of the content of AKO will fall into this category. While this content typically will be developed, stored, and managed by the owning Knowledge Center, AKO will provide through its knowledge architecture links to the sites where this content resides, through organizational names and topics. Information security at this level is dictated and maintained by the Knowledge Center leader, using security tools and utilities that are part of the AKO architecture. Within a knowledge center, information can be stored for restricted access down to the database field or repository item. Only members of the community authorized by the owning Knowledge Center will have rights to these restricted repositories. The value added by AKO will be to provide the logical structure for organizing the links in a way that achieves an Army-wide knowledge capability. People who have a legitimate need for access to this material will become aware of it through AKO and can apply to the owning Knowledge Center for access. Knowledge Centers that might form to deal with particularly sensitive information (such as acquisition strategies, ongoing procurements, and funding issues) would be secured for "need to know" access.

Many Army organizations currently have Web sites containing some knowledge and information content. However, most do not currently capture anywhere near the full range of collective business knowledge residing undocumented in the minds of their personnel, or documented but not accessible to others inside or outside their organizations with legitimate business needs for it. To help promote knowledge sharing throughout the Army, the AKO Materiel Developer will provide AKO Web site templates and instructions so that Army organizations can efficiently capture, organize, and make this content available to authorized users.

Collaboration among workers is as important to KM as is accessible knowledge content. Through collaboration, workers create, adapt, extend, and apply knowledge. AKO will support collaboration by enabling workers to submit important items to be shared (typically documents) into knowledge repositories. In addition, colleagues will be able to engage in real-time dialogue using online chat capabilities, as well as post comments into discussion groups, which are moderated to facilitate "discussions" over time between colleagues at various locations who are interested in the same topics. Collaboration will occur on both an Army-wide level and on a restricted level, within organizations or communities of practice.

To encourage development of robust knowledge management capabilities, AKO will establish criteria and a process by which new or existing KM processes and tools within the Army can be evaluated against industry standards. Like the Software Engineering Institute's Capability Maturity Model, the project will develop a model that describes the different levels of KM process and technological development possible today. The project will plan future development of AKO processes and tools consistent with this

model and, as appropriate, will assist other Army KM initiatives to do the same. The goal is to set a common standard with the project and to promote adoption of this standard Army-wide. Figure 7-2 provides a possible model for distinguishing various levels of KM development.
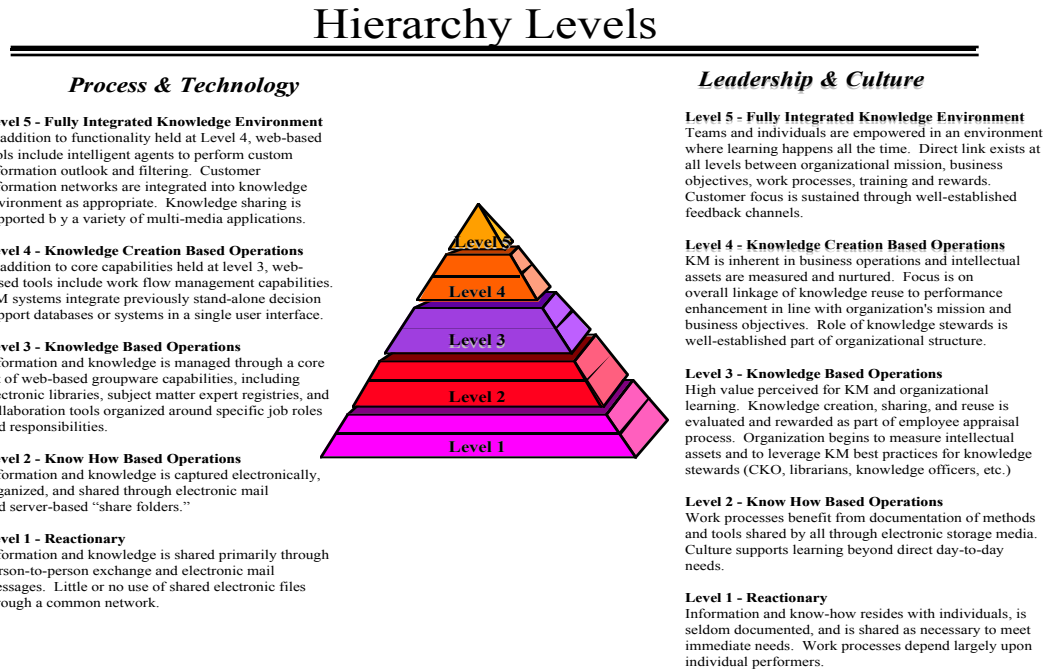
## Hierarchy Levels

### Process & Technology

**Level 5 - Fully Integrated Knowledge Environment**
In addition to functionality held at Level 4, web-based tools include intelligent agents to perform custom information outlook and filtering. Customer information networks are integrated into knowledge environment as appropriate. Knowledge sharing is supported b y a variety of multi-media applications.

**Level 4 - Knowledge Creation Based Operations**
In addition to core capabilities held at level 3, web-based tools include work flow management capabilities. KM systems integrate previously stand-alone decision support databases or systems in a single user interface.

**Level 3 - Knowledge Based Operations**
Information and knowledge is managed through a core set of web-based groupware capabilities, including electronic libraries, subject matter expert registries, and collaboration tools organized around specific job roles and responsibilities.

**Level 2 - Know How Based Operations**
Information and knowledge is captured electronically, organized, and shared through electronic mail and server-based "share folders."

**Level 1 - Reactionary**
Information and knowledge is shared primarily through person-to-person exchange and electronic mail messages. Little or no use of shared electronic files through a common network.

### Leadership & Culture

**Level 5 - Fully Integrated Knowledge Environment**
Teams and individuals are empowered in an environment where learning happens all the time. Direct link exists at all levels between organizational mission, business objectives, work processes, training and rewards. Customer focus is sustained through well-established feedback channels.

**Level 4 - Knowledge Creation Based Operations**
KM is inherent in business operations and intellectual assets are measured and nurtured. Focus is on overall linkage of knowledge reuse to performance enhancement in line with organization's mission and business objectives. Role of knowledge stewards is well-established part of organizational structure.

**Level 3 - Knowledge Based Operations**
High value perceived for KM and organizational learning. Knowledge creation, sharing, and reuse is evaluated and rewarded as part of employee appraisal process. Organization begins to measure intellectual assets and to leverage KM best practices for knowledge stewards (CKO, librarians, knowledge officers, etc.)

**Level 2 - Know How Based Operations**
Work processes benefit from documentation of methods and tools shared by all through electronic storage media. Culture supports learning beyond direct day-to-day needs.

**Level 1 - Reactionary**
Information and know-how resides with individuals, is seldom documented, and is shared as necessary to meet immediate needs. Work processes depend largely upon individual performers.

**Figure 7-2—Possible Levels of KM Development**

## 8    AKO Roles and Responsibilities

The following section describes the roles and responsibilities for each of the organizational entities within the AKO virtual organization.

### 8.1    AKO Executive Steering Committee

The AKO ESC will be a standing General Officer/Senior Executive Service committee comprised of representatives across the Army as depicted in Figure 8-1:
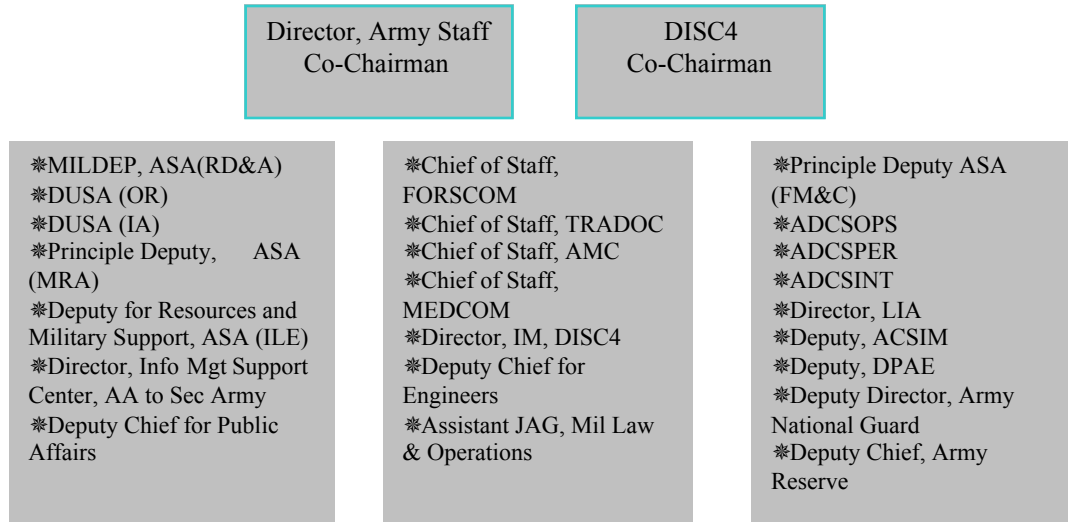
**Figure 8-1—AKO Executive Steering Committee**

The ESC will have the following responsibilities:

- Serve as a catalyst for institutionalizing KM in the Army

- Prioritize requirements and recommend funding strategies for AKO development and implementation

- Establish long-term project goals

- Provide project guidance and priorities

- Identify and resolve significant project issues

- Review long-range acquisition issues

- Integrate and prioritize AKO funding requirements with other projects

- Ensure that the goals and objectives for AKO, the Army Flow Model, and the Organizational Command Training Program are coordinated and integrated

- Review and approve annual revisions to the AKO Strategic Plan to include expansion priorities

An AKO ESC Working Group will support the ESC with members from all ESC organizations, normally at the Colonel/General Schedule 15 level.  The ESC is the body responsible for setting policy and overall AKO project direction, including providing guidance to all people and organizations participating in Army knowledge management efforts.  The ESC is a decision-making body.  The ESC Working Group will function as staff for policy development, issue investigation and resolution, white paper

development, etc. The Working Group will make project recommendations to the ESC. See Appendix A of this document for the AKO Executive Steering Committee Charter.

## 8.2    AKO Functional Proponent

Working in conjunction with the ESC, the AKO project will be managed through two key organizational entities. Each organization will have a distinct role. The first is that of the AKO Functional Proponent. Through AKO-developed tools, infrastructure and templates, the AKO Functional Proponent will collaborate with MACOM and business area leaders within the Army to assist in the development of Knowledge Centers for their targeted organizations. The AKO ESC is considering the recommendation that the Director, Army Staff, assume responsibility as the AKO Functional Proponent. These responsibilities include the following::

- Serve as the primary POC for KM initiatives and AKO project execution actions

- Develop overall Budget Year and out year KM programming for the total Army

- Maintain accountability of funds allocated for AKO

- Oversee allocation of funds for acquisition of AKO technical infrastructure; and perform related financial management, including cost recovery procedures, as appropriate

- Eliminate AKO acquisition redundancies

- Coordinate AKO project actions and requirements with ESC Working Group

- Foster awareness and understanding of KM across HQDA, the MACOMs, and the field

- Manage the AKO Management Decision Package (MDEP)

- Conduct liaison activities with external agencies on KM issues

- Report the status of project execution and fund expenditures to the ESC Working Group

- Coordinate project requirements with the DoD and other HQDA staff agencies

- Establish policies and provide leadership to promote effective KM practices in the Army institutional elements and operating forces

- Review existing information management policies and regulations to identify and recommend the inclusion of KM direction and guidance, and, when required, publish interim guidance

- Provide the AKO infrastructure and tools for knowledge sharing and collaboration across the Army institutional elements and operating forces

- Establish criteria and a process for assigning different levels of validity or reliability to individual information/knowledge items (e.g., assigning trust levels to documents, presentations, graphics, etc.)

- In conjunction with the AKO Materiel Developer, develop criteria for evaluating existing KM tools and networks in terms of functionality, robustness, and security

- Maintain, update, and coordinate the AKO Strategic Plan

8.3   AKO Materiel Developer

The second key management entity is the AKO Materiel Developer. The AKO Materiel Developer will be responsible for the technical implementation and support for the AKO infrastructure and tools.  Working with the AKO Functional Proponent, the AKO Materiel Developer will provide technical expertise to the ESC Working Group, as well as expand AKO capabilities  in accordance with project plans, and as required to support emerging Knowledge Centers within the Army.  As tools, system components and applications are added to the AKO infrastructure, the AKO Materiel Developer will work with the MACOMS and associated organizations to enhance AKO capabilities to support the expanding user population, perform systems and network administration, and provide technical user support.  The AKO ESC is considering the recommendation that DISC4 maintain ownership of this responsibility through the Strategic and Advanced Computing Center.  The AKO Materiel Developer will have the following responsibilities:

- Provide technical leadership for Army KM consistent with AKO ESC Work Group direction

- Set AKO technical standards consistent with DoD and Army technology standards to permit Army-wide interoperability of AKO

- Ensure Army compliance with DoD security standards

- Develop, implement, and maintain a knowledge architecture consisting of topical structures for organizing Army knowledge and providing for logical views into the resulting knowledge base

- Leverage existing Army capabilities including knowledge bases, technology infrastructure, and automated processes by providing logical linkages to them from the AKO infrastructure

- Ensure technical compatibility to warfighting information and digitization architecture

- Apply KM assessment criteria to proposed new Knowledge Centers

- Provide templates and tools to minimize costs and permit consistent development of AKO Knowledge Centers

- Maintain accountability of funds allocated for AKO technical development, implementation, operation and maintenance

- Coordinate KM technical requirements with MACOMs and agencies

- Control and monitor KM technical activities

- Implement MACOM-coordinated and ESC-approved KM priorities

- Provide internal consulting services for application of KM methods and techniques

## 8.4   MACOMs, Other Principal Organizations and Stakeholders

The MACOMs, their subordinate organizations and installations, and other stakeholders have the opportunity to participate as principal drivers, operators and users of the AKO as it supports MACOM implementation of KM within their respective units.  Although these leaders may implement Army KM objectives using approaches unique to their organization, benefits are derived enterprise-wide when existing AKO infrastructure is leveraged to the maximum extent possible.  In addition, utilization of AKO practices and infrastructure help reinforce de facto KM functional and architectural standards and security consistent with Army and DoD standards.  As MACOMs begin or continue to develop KM solutions, maturing efforts will be considered to be Knowledge Centers within the AKO umbrella.  In order to maximize reuse of existing capabilities, MACOM leaders and associated stakeholders have the following responsibilities:

- Inform the AKO Functional Proponent of  planned knowledge management implementations, and investigate the appropriateness of leveraging the existing AKO practices and infrastructure for the new KM project

- Identify and prioritize command requirements for knowledge management projects

- Execute knowledge management implementation within its respective commands

- Build, validate, and maintain knowledge content; facilitate and maintain collaborative discussions serving their knowledge centers and associated communities of practice

- Ascertain the benefits of leveraging, expanding or integrating existing AKO practices and infrastructure

- Identify technical infrastructure and facility upgrade requirements; operate and maintain the infrastructure associated with their own communities of practice using AKO tools as appropriate

- Coordinate project requirements and development with other MACOMs and the AKO Functional Proponent for cross-functional capabilities

In addition to the MACOMS, their subordinate organizations and installations, other stakeholders, such as Army-wide business area leaders or initiative owners may also leverage the AKO infrastructure and tools in order to create specific Knowledge Centers to serve their needs and the needs of their communities. For example, ACSIM may develop a Knowledge Center related to Facility Engineering. In this way, Knowledge Centers may be owned and operated on behalf of a single MACOM, a multiple MACOM initiative, or overall business area leader for the Army. These Knowledge Centers will be implemented according to the needs and environment of the community being served. However, a critical element in any emerging Knowledge Center is collaboration and leveraging of existing and expanding AKO capabilities to the extent possible.

## 9   Implementation Tasks

The goals, objectives, and tasks contained in the AKO Strategic Plan set the future direction for KM in the Army. Upon publication of the plan, the AKO Functional Proponent will develop a detailed Army KM Implementation Plan in concert with the AKO Materiel Developer. The tasks listed below are arranged in near-term, mid-term, and long-term planning sequences and will be used as benchmarks to gauge the AKO project's success in achieving the Army's Vision for KM. Figure 9-1 provides a graphical depiction of the relationship between AKO Goals, Objectives, and implementing tasks.

**Goal 1: Achieve cultural & business practice changes**
*Objective 1: Build KM skills across Army*

**Tasks**
Near-Term: Evaluate and Incorporate KM into Army Doctrine
Mid-Term: Extend Project to the MACOMs

**Goal 2: Develop network-centric organizational structure**
*Objective 2: Integrate KM methodologies through central repository*
*Objective 3: Create cross-functional collaborative environment fostering electronic business*
*Objective 4: Acquire necessary resources to implement KM initiatives*

**Tasks**
Near-Term: Promote, Implement & Coordinate KM Initiatives
Near-Term: Advocate Funding
Mid-Term: Capitalize on Industry Best Practices

**Goal 3: Measurably improve warfighter and readiness processes**
*Objective 5: Empower process owners to implement KM pilot projects*

**Tasks**
Near-Term: Promote Solutions Supporting Current & Future Requirements
Near-, Mid-, & Long-Term: Refine Outcome-Oriented Performance Measures
Long-Term: Create Virtual Environment to Support Needs of Warfighter

**Goal 4: Incorporate KM into Army policy & strategy**
*Objective 6: Develop, staff & publish policy and procedures for Army KM implementation*

**Tasks**
Near-Term: Capitalize on Current Initiatives
Mid-Term: Provide Reward Incentives

**Goal 5: Achieve unimpeded but secure access to information**
*Objective 7: Promote KM technical standards meeting established Army & DOD standards*

**Tasks**
Near-Term: Identify & Resolve Privacy & Security Concerns
Long-Term: Implement Targeted Initiatives & Practices

**Goal 6: Provide robust capability to share knowledge across functional boundaries**
*Objective 8: Integrate KM practices into key Army processes across functional boundaries*

**Tasks**
Mid-Term: Facilitate Cross-Functional Integration
Mid-Term: Promote Global Information Sharing

**Figure 9-1—Relationship of Goals, Objectives and Tasks**

Most near-term tasks have mid- and long-term applications that will lead to successful implementation of KM within the Army. Included in this section is a high-level view of the activities associated with each task. Each task is defined in more detail below.

## 9.1 Near-Term Tasks

The near-term tasks for the AKO Strategic Plan are to be accomplished within the first two years of implementation and are the milestones for achieving the project vision for knowledge management. The near-term tasks include the following described below.

### 9.1.1 Promote, Implement, and Coordinate KM Initiatives

The AKO Functional Proponent will promote cultural change, with the implementation and coordination of KM initiatives across the Army. This will include the following tasks:

- Develop and implement a comprehensive marketing communications plan, which will include all appropriate media and audiences. This includes representing the Army at the appropriate defense and civilian forums, including Department of Defense (DoD), Federal Government, national and international KM standards bodies and consortiums.

- Coordinate inclusion of KM into existing Army Command, Control, Communications, Computers, and Intelligence Technology ($C^4IT$) and leader development programs.

- Integrate KM into current and future Army policies and programs. Policies will be revised to promote the use of commercial off-the-shelf (COTS) products in order to reduce the costs associated with systems development. As technologies continue to evolve, KM policies will be reviewed to ensure that they reflect current trends, laws, regulations, and best practices.

- Develop KM planning guidance and coordinate with the respective Office, Secretary of the Army (OSA), Army Staff (ARSTAF), and MACOM representatives to ensure its inclusion in the Army's planning processes. These processes include: Planning, Programming, Budgeting and Execution System (PPBES), the Army Long Range Planning Guidance (ALRPG), the Army Modernization Plan (AMP), the Requirements Determination Process (RDP), the Army Research, Development and Acquisition Plan (RDA), The Army Plan (TAP), and the Army Program Guidance Memorandum (APGM).

- Develop criteria and establish a process by which new or existing KM processes and tools within the Army can be evaluated against industry standards.

9.1.2   Evaluate and Incorporate KM into Army Doctrine

In order for the Army to attain the necessary skills for implementing KM effectively across the Army's global mission areas, training for all skill levels must be addressed. The AKO Functional Proponent, in coordination with the AKO Materiel Developers, Combat Developers, and the Civilian Career Program Functional Chiefs and Functional Chief Representatives, will evaluate existing training programs and policies in order to recommend changes and maximize training on KM.

- The AKO Functional Proponent will address training at the technical, managerial, and executive levels. Once incorporated into the respective training curriculum at the technical and managerial levels, these recommendations will facilitate the migration of specialized skills to generalized skills and promote global awareness and information sharing.

- The AKO Functional Proponent will review policy regarding KM training to promote the use of distance learning and interactive web-enabled training applications.

- The AKO Functional Proponent will promote KM by coordinating the development of a senior-level education program that addresses the business applications of KM.  This education program will be incorporated into the curriculum at the Defense Systems Management College, National Defense University, Army War College, Army Management Staff College, Army Logistics Management College, and Command and General Staff College.

- The AKO Functional Proponent will develop a multi-media presentation to support senior level training that can be conducted within each organization and that is accessible via the World Wide Web (WWW).  The senior-level education program will increase understanding of the business benefits of KM and thereby promote its use across the Army.

### 9.1.3   Capitalize on Current Initiatives

To leverage and retain cost savings throughout the Army, it is important to capitalize on information systems currently being developed and upgraded within the Army community.  To accomplish this, the Chief of Staff will establish the KM Executive Steering Committee (ESC) with representatives from the OSA, Army Staff (ARSTAF), and Major Commands (MACOMs) to review current and future knowledge-based initiatives across the functional communities.

- The ESC will monitor and report to the CSA on the status of implementing KM in the Army.  The ESC will be responsible for promoting the synchronization of KM initiatives within the Army.

- The ESC will meet quarterly, or as required, to review initiatives to identify and prioritize opportunities for cross-functional application of knowledge-based initiatives.

- As another means to capitalize on current initiatives, the AKO Functional Proponent will conduct a data call to establish and maintain a central repository of KM initiatives to collect lessons learned and promote data sharing.  The Army KM repository will target knowledge-based initiatives with high cross-functional potential.  This repository will include both commercial and DoD solutions, best business practices, and lessons learned.  This database will be used to leverage KM as part of business process re-engineering and business process improvement initiatives.  This database will identify proven tools and solutions that have effectively reduced cost and increased organizational efficiencies.  In addition, the database will identify tools that have accelerated implementation of re-engineered processes and technologies.  Process owners will be empowered

to select the best-proven solutions to apply to their functional business processes.

- The AKO Functional Proponent will maintain a WWW site that provides access to the AKO repository and insight into current initiatives, trends, and upcoming events.

9.1.4   Identify and Resolve Privacy and Security Concerns

Advances in computers and telecommunications have resulted in more accurate, reliable, and faster information processing and, as such, information assets must be protected. The Defense Reform Initiative, published on 10 November 1997, highlighted the importance of data security, through encryption and information assurance.  By 1 January 1999, all new security systems within the DoD will require digital signature and encryption mechanisms.  In order to support the DoD mandate, the AKO in coordination with the AKO Functional Proponents, will identify and document KM security requirements for inclusion in the technical, operational, and systems architectures.

- Security considerations will include integrating Army Online and the eventual DoD Public Key Infrastructure (PKI).  Security requirements will be identified that cover data security, electronic signature, smart cards, firewalls, authentication, non-repudiation, and encryption.  Once security requirements have been identified and incorporated into existing architectures, appropriate information security policies and compliance procedures will be staffed and published.  These security measures will facilitate single sign-on capabilities within the AKO with directory services using a lightweight directory access protocol (LDAP) compliant interface to reduce administrative costs and enhance the AKO user experience.

- Last, the AKO Materiel Developer will implement an access control framework with multiple levels of authorities to allow AKO administrators to protect information resources.

9.1.5   Identify and Promote Solutions to Address Current Capabilities and Future Requirements

The Army Electronic Commerce Strategic Plan requires the ODISC4, in coordination with the OSA, ARSTAF, and MACOMs, to conduct a study to collect information on infrastructure in order to incorporate this information into the C4/IT Investment Strategy. This information will be used as a baseline to recommend and coordinate with the respective OSA, ARSTAF and MACOM representatives planning guidance for inclusion into the Army's planning and budgetary documents (PPBES, ALRPG, AMP, RDP,

RDA, TAP, and APGM).  The AKO project will ensure that KM requirements and capabilities are included in that study.

### 9.1.6   Advocate Funding

In order to promote efficient and effective response to changing business environments, and to promote the rapid introduction of new processes, the AKO Functional Proponent, in coordination with the OSA, ARSTAF, and MACOMs, will act as the budget advocate for KM initiatives.

- The AKO Functional Proponent will ensure that KM is incorporated into the Planning, Programming, Budgeting, and Execution System (PPBES) and respective Program Budget Decisions (PBDs).

- The OSA, ARSTAF, and MACOMs remain responsible for submitting budgetary requirements for KM Initiatives into their respective POM processes.

- The AKO Functional Proponent will advise Program Evaluation Groups on KM initiatives.

### 9.1.7   Refine Outcome-Oriented Performance Measures

Section 10 of this plan—Performance Measures—establishes a set of measurable performance goals.  The ESC or the Working Group will establish a process to review and refine the Performance Measures.  The AKO Functional Proponent will assign responsibility for collecting the metrics, and for making appropriate.

### 9.2   Mid-Term Tasks

The mid-term tasks build upon the short-term tasks to advance the implementation of KM in the Army.  These tasks involve cross-functional integration, funding, information sharing, and best business practices.  These tasks are targeted for completion within the FY00-FY02 timeframe.

### 9.2.1   Facilitate Cross-functional Integration

Cross-functional integration of applications allows the data from one functional community to be immediately used by applications belonging to another functional community.  Based on a review and assessment of existing battlefield and non-battlefield systems for cross-functional integration opportunities, the Army Electronic Commerce Integrated Process Team (EC IPT) is required to make recommendations to the Joint Technical Architecture-Army to expand Electronic Commerce capabilities to enable cross-functional integration.

- The AKO will establish liaison with the EC IPT to insure that KM applications are included in the review and assessment of non-battlefield systems for cross-functional integration opportunities.

- The AKO will recommend changes to JTA that promote cost savings and help achieve integration.

### 9.2.2 Reward Incentives

KM will be promoted by incorporating KM into existing Army awards programs as appropriate. Rewards for promoting cost avoidance associated with KM will be incorporated into current Army excellence programs. These successes will promote continued use of knowledge-based initiatives and will take advantage of existing DoD and other Federal recognition programs.

- The AKO Functional Proponent, in coordination with the ESC, will identify appropriate incentive programs and recommend evaluation criteria to the program approval authority. Additionally, the proponent will establish a program for recognizing MACOM and Installation KM initiatives. The AKO Functional Proponent, in coordination with the ESC, will identify and establish requirements and guidelines for defining KM initiatives. Each fiscal year, based on a review of MACOM/Installation KM initiatives, the ESC will recognize those MACOMs / Installations that have established aggressive and effective methods for implementing KM initiatives that are compatible with the JTA—Army and established policies.

- The AKO Functional Proponent will seek out and publish additional sources of funding for KM initiatives. In order to reduce costs and approve acquisition lead times to promote the rapid introduction of KM technologies, the proponent will insure that KM requirements are included in current government contract vehicles that support KM implementation.

- Available contracts will be listed on the AKO Web site as an information source for MACOMs and Installations. Each OSA, ARSTAF, and MACOM is responsible for effectively using these contract vehicles to promote the rapid insertion of KM into their respective functional communities.

### 9.2.3 Extend the Project to the MACOMs

AKO projects should be pursued across all MACOMs to establish an enterprise-wide capability that has a measurable impact on Army readiness and efficiency of operations. To encourage decentralized development and operation of AKO, MACOM projects

should support influential communities of practice whose awareness and use of AKO will help accelerate its use throughout the Army. These include Army web masters and Directors of Information Management (DOIMs).

### 9.2.4    Promote Global Information Sharing

The Army Electronic Commerce Strategic Plan has as an objective to adopt national and international standards. As such, the AKO proponent will actively continue to participate in ongoing standard bodies and consortiums in order to facilitate the sharing of business information across functional boundaries and ensure those standards are shared with the ESC and included in EC IPT initiatives.

### 9.2.5    Capitalize on Industry Best Practices

The AKO Functional Proponent, OSA, ARSTAF, and MACOMs will participate in forums and partnerships with industry that maximize the best use of KM techniques, processes, and technologies.

- Reports and trends will be consolidated by the participants and submitted to the ESC for consideration in future re-engineering or pilot testing initiatives. This process will ensure the Army maintains a central knowledge base of current KM initiatives, techniques, and concepts that can be promulgated to the OSA, ARSTAF, and MACOMs.

- The AKO Functional Proponent, OSA, ARSTAF, MACOMs, and Installation Commanders will capitalize on opportunities through the Training with Industry (TWI) program by sponsoring and/or participating in Army and Industry KM seminars. These training opportunities will provide the Army with a unique business perspective on various industry KM applications. Lessons learned through the TWI and other similar programs will provide the Army with a better understanding for implementing and integrating new techniques.

- The AKO Functional Proponent, OSA, ARSTAF, and MACOMs will promote the use of pilot programs and pilot projects to facilitate adoption of AKO processes and tools. Results of these pilot programs and projects will be disseminated via the ESC and AKO for Army-wide dissemination and incorporation where appropriate.

### 9.2.6    Refine Outcome-Oriented Performance Measures

During the mid-term, the Army KM performance goals are refined to include more performance data. Data collection and reporting will be institutionalized and simplified to the maximum extent possible. Efforts will be directed at refining the initial set of metrics

to more effectively and reliably measure performance, and to ensure that the data collected is complete, accurate, and consistent. During this phase, a meaningful determination of progress towards achieving the Army KM Vision can be made. Performance enhancements will be identified and implemented.

## 9.3    Long-Term Tasks

The portion of the Strategic Plan addressing long-term tasks is the capstone for achieving the Army's vision for the AKO project.  The over-arching tasks will be accomplished during the out years (FY03-FY10).  By sharing its collective knowledge and fully using cross-functional collaboration in daily operations, the Army will be agile and responsive to the needs of its digitized combat forces.  As the Army enters the 21st Century, it is possible that the organizational structure and roles and responsibilities upon which this plan is based will change.  However, regardless of any changes made to the organizational structure, the Army vision will be achieved through execution of these tasks.  If required, adjustments to the roles and responsibilities will be made to conform to any organizational restructuring or realignment.  The long-term tasks are described in the following sections.

### 9.3.1    Implement Targeted Initiatives and Practices

During the long-term task phase, the AKO Functional Proponent will implement targeted initiatives and practices identified in the mid-term strategies:

- Systems will be developed in accordance with the recommended changes to the JTA-Army that garner efficiencies and promote cross-functional integration.

- The Technical, Operational, and System architectures will reflect the security requirements identified in the near-term risk analysis study, and will reflect the objectives identified in the $C^4IT$ Strategic Plan.

- The Army KM initiatives will be implemented in a manner that promotes and maximizes the capability sharing its collective knowledge and using cross-functional collaboration in daily operations.

- Cultural changes will be achieved Army-wide as a result of education and changes in policy, guidance and procedures.

### 9.3.2    Create a Virtual Working Environment to Support the Needs of the Warfighter

The ESC, in coordination with the Electronic Commerce Integrated Process team (EC-IPT) OSA, ARSTAF, and MACOMs will continue to identify opportunities for creating a virtual working environment.

- Systems will be multi-media capable, portable, lightweight, and wireless to maximize the use of resources - time, personnel, and money. These systems will accommodate geographic diversity and global information sharing.

- The virtual working environment will facilitate the creation of a seamless battlefield promoting critical information exchange between the Army institutional elements and operating forces.

- The AKO Functional Proponent will coordinate with the ODISC4 to develop policy that addresses the legal constraints of the virtual office, infrastructure, security, and readiness concerns.

### 9.3.3 Refine and Calibrate Outcome-oriented Performance Measures

During the long-term phase, both the strategic planning and implementation planning processes will be well established and accepted within the Army community. The performance data collection effort will be further refined, and the process of gathering and reporting data will be institutionalized throughout the Army community. Based upon the performance data collected, necessary management reforms will be identified and integrated into the KM community.

## 10 Performance Measures

The integration of goal setting, performance measurement, and management controls constitutes a framework for understanding and improving performance. Goals and objectives at all organizational levels must be established and linked. Then a performance measurement process must be established and implemented. Performance measurement is an iterative and continuous process that can be used to gauge and communicate progress in accomplishing these goals and objectives. Management controls provide the mechanisms to allow commanders and staff at all levels to gauge results as indicated by the performance measures.

It is essential to the success of AKO to include a rigorous measurement component. Performance measures for AKO must ultimately relate to three levels of performance: the enterprise, intermediate, and user level, as depicted in Figure 10-1. This three-tier approach connects the effectiveness and Return on Investment (ROI) of KM to the performance of the Army, including the MACOMs and the users by showing the value added of individual KM projects.
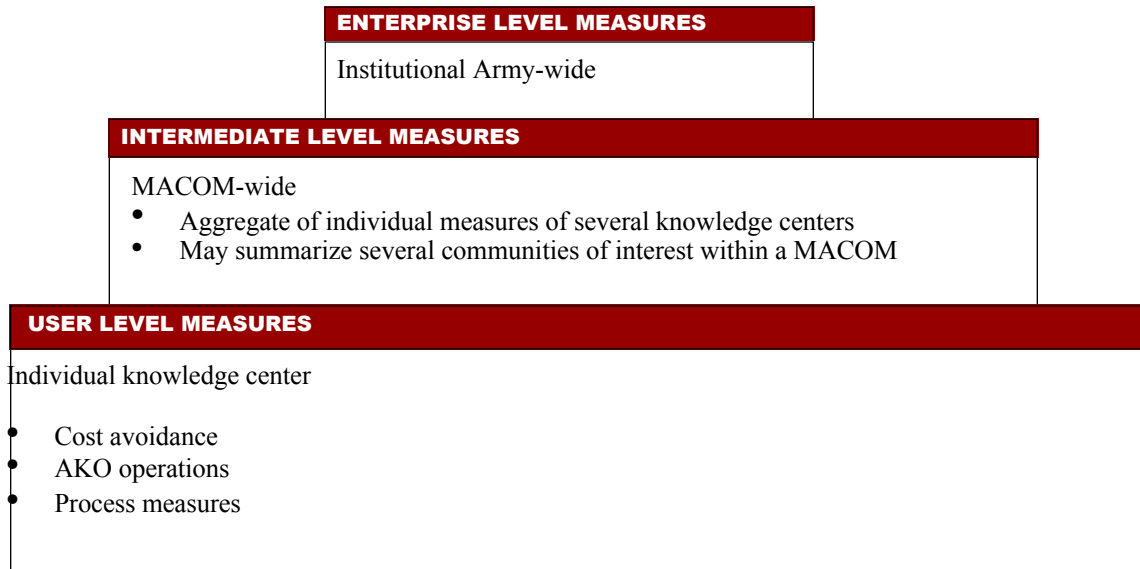
**ENTERPRISE LEVEL MEASURES**

Institutional Army-wide

**INTERMEDIATE LEVEL MEASURES**

MACOM-wide
- Aggregate of individual measures of several knowledge centers
- May summarize several communities of interest within a MACOM

**USER LEVEL MEASURES**

Individual knowledge center

- Cost avoidance
- AKO operations
- Process measures

**Figure 10-1 -- AKO Three Tier Performance Measurement Model**

This will be accomplished through the creation of balanced sets of measures for AKO pilots and implementations. These measures will connect the specific goals of AKO projects to the higher level goals of users, the MACOMs and the Army institutional elements and operating forces. Evaluation of the success of the AKO projects will be based on the analysis of these measures, demonstrating immediate improvements in processes and capabilities as a result of AKO, and allowing for the projection of long term impacts that may result from project implementation.

For each pilot project the team has replicated this structure of measures, showing the relationship of the pilot to higher level objectives. Detailed measures and data collection processes have been created to demonstrate the pilot's success in creating the desired results.

The following section describes the logical infrastructure of measurement used as a basis for creating AKO performance measures. Goals and measures at the Enterprise and Intermediate levels are broadly described, as it is not anticipated that pilot projects will have significant impact on high level measures in the early stages of implementation. As pilot efforts are expanded, or as broader implementation of AKO projects are pursued, more detail will be added to these measures.

10.1  Enterprise-Level Performance Measures

Readiness and the cost of readiness are top level measures reflecting the Army mission of providing trained and equipped units to the war-fighting Commanders-in-Chief (CINCs) in a cost-effective way. Readiness at the enterprise level must be a summary of readiness

measurements in various MACOM and functional or organizational areas, that is, it must be an index measure.

The AKO pilots and individual projects will typically not have a measurable impact at the enterprise level as the scopes of the individual projects are too narrow to have a significant over-arching effect. Over time, AKO expansion and usage, coupled with other transformational activities, should have an impact at the enterprise level. However, because of the numerous unrelated variables that affect readiness and the cost of readiness, it will always be difficult to isolate the specific contribution KM makes at the enterprise level. Accordingly, it is important for AKO to demonstrate a logical linkage between its individual project initiatives and the overall enterprise effectiveness. This will be accomplished by defining the relationships between the Knowledge Center activities, the missions of the user-level elements, and the intended contribution of each individual project to the mission of the Army institutional elements and operating forces.

10.2   Intermediate-Level Performance Measures

The user-level performance measures, particularly those identified with AKO operations, will provide a quantifiable intermediate level metric when compiled and evaluated in the aggregate. As individual knowledge centers are developed, common activities among various communities of interest will emerge. Some of these activities can be summarized across several knowledge centers within a MACOM. Mission-specific, non-shared, or activities that are labor intensive to collect should not be used as intermediate-level measures.

10.3   User-Level Performance Measures

Pilot and individual project-level measures fall into three categories: cost avoidance, AKO operations, and process measures. It is feasible and necessary to measure pilot impacts at this level.

10.3.1   Cost Avoidance Measures

It is essential to measure AKO impact in terms of costs avoided as a result of the implementation of knowledge office capabilities. This measure, when appropriately compared with implementation costs, can be used to determine the monetary return on investment for the project. This type of measurement is consistent with the requirement for all information technology and process improvement investments as required by the Clinger-Cohen Act and related DoD and Army policy. However, it is important to note that cost avoidance is not the only value delivered by the implementation of knowledge office capabilities, and in some cases is not the main value sought by the effort. A balanced view of performance indicators, including all categories discussed here, is necessary to appropriately evaluate knowledge management projects.

Cost avoidance as a form of ROI is measured by the time saved by knowledge workers as a result of reducing the time they spent on various knowledge work activities. These activities include searching for information and knowledge, validating the information or knowledge once obtained, and locating SMEs. The AKO pilots and production projects should directly reduce the time required for these activities. Measuring productivity gains will be performed through direct measurement, where possible, and by surveys of workers.

The productivity measures would not in themselves indicate cost savings resulting from AKO, but only the potential for savings. To realize dollar savings would require that the time saved by using AKO be subtracted from overall staffing levels. Alternatively, the Army could use the time saved to perform other activities. While AKO is not intended as a cost-cutting program, its use will lead to measurable efficiencies.

10.3.2  AKO Operations Measures

Operational measures specific to the pilots and operational projects will be developed to show their impact on metrics presumed to lead to business improvement and value. These include:

- **AKO content growth**—which will be measured by the increase in the number of knowledge objects submitted to the AKO by the pilot community

- **AKO community growth**—which will be measured by the increase in community members who have registered for and/or accessed the community

- **AKO usage**—which will be measured by the number of times community members request Web pages and download AKO objects

- **Collaboration via discussion**—which will be measured by the activity level in discussion forums, such as the number of discussion forums in use, the numbers of postings to the forums, or the number of participants

These operational measures in and of themselves do not prove business impact, but they will show AKO usage that can be assumed to be of value to community members. Early on in a project lifecycle, before ROI or process measures are available, the operational measures will serve as the primary performance measures, indicating adoption of KM and progress.

10.3.3  Process Measures

Quantitative and qualitative measures will also be obtained to gauge the impact on how communities conduct their business operations as a result of AKO.  For example, community members will be asked about the utility of the knowledge objects and their helpfulness to their work, or the helpfulness of collaboration through the discussion groups, or the helpfulness of the SMEs they found through AKO.  These will be obtained through a combination of post-pilot survey, a sample of interviews, and through anecdotal documentation.

The pilot project goals are the basis for refining and validating these measures.  Their purpose is to establish the KM impact on the pilot organizations.  Accordingly, the objective process measures will be adjusted to reflect the success or failure of the pilot project measures in gauging the impact of KM.

Business impacts resulting from AKO can and will be identified.  For example, the availability of documents or SMEs through AKO could lead to a reduced cycle time for responding to action items.  In cases where it is too difficult to rigorously measure this, knowledge workers could provide structured estimates of cycle time reduction. Alternatively, qualitative perceptions of cycle time reductions will be obtained through a post-pilot survey where structured estimation will not be possible.

Finally, for AKO pilots where increased collaboration is a business objective, the team is experimenting with the use of method called interpersonal network mapping as a way of measuring improvement in collaboration.  Following this method, we will be attempting to objectively demonstrate the influence of the pilot projects on the strength and extent of these informal networks.

## 11  Conclusion

The AKO project has been established by the Chief of Staff of the Army in order to institutionalize and sustain knowledge management principles, practices, processes and enabling technology.  This AKO Strategic Plan provides a roadmap to embed knowledge management throughout the U.S. Army.  The plan addresses the context within which the Army is moving aggressively toward knowledge management as a core discipline, as well as the project's specific vision, goals and objectives, with the fundamental principles that will guide project execution and measurement.  New roles and responsibilities are defined to support an emerging network of virtual teams within and across the Army's institutional elements and operating forces.  This document also lays out the longer-term plans and activities necessary to transform the Army into a knowledge-centric organization capable of supporting the fully digitized force of the future.

**Appendix A**
**AKO Executive Steering Committee (ESC) Charter**

# Appendix A
# AKO Executive Steering Committee (ESC) Charter

### 1. Purpose:

The Army Knowledge Online (AKO) Executive Steering Committee is formed to facilitate the AKO vision of transforming the Institutional Army into an information-age, networked organization that leverages its intellectual capital to better organize, train, equip and maintain a strategic land combat force. The goals are very similar to those for battlefield digitization -- making information and knowledge available to those who need to use it. The target is the Institutional Army versus the Tactical Army. The platform is the desktop versus the applique. The outcome is shared knowledge versus battlefield awareness. The Executive Steering Committee will serve as a forum to provide the strategic direction and priorities for institutionalizing AKO, sharing information, and identifying cross-functional issues or opportunities that exist in the AKO development / implementation effort. The Organizational Command Training Program (OCTP) is a significant part of the AKO effort; therefore, the AKO Executive Steering Committee will also oversee the efforts of the OCTP and the Army Flow Model (AFM).

### 2. Mission:

Specifically, the Executive Steering Committee will:

**2.1**   Serve as a catalyst for institutionalizing knowledge management in the Army.

**2.2**   Identify and resolve issues regarding AKO.

**2.3**   Prioritize requirements and recommend funding strategies for AKO development and implementation.

**2.4**   Ensure that the Organizational Command Training Program (OCTP) is leveraged as a proof of principle for and is developed in conjunction with the goals and objectives of the Army Flow Model and Army Knowledge Online.

### 3. Membership:

The Director of Information Systems for Command, Control, Communications, and Computers (DISC4) and the Director of the Army Staff will co-chair the AKO Executive Steering Committee. In the absence of either the DISC4 or the DAS, their designated representatives will co-chair the committee. Membership is composed of:

**3.1** Director of Information Systems for Command, Control, Communications, and Computers (DISC4) (Co-chairman)

**3.2** Director of the Army Staff (DAS) (Co-chairman)

**3.3** Military Deputy to The Assistant Secretary of The Army, Research, Development, & Acquisition (SARDA) (Member)

**3.4** Deputy Under Secretary of the Army for International Affairs (DUSA (IA)) (Member)

**3.5** Deputy Under Secretary of the Army for Operations Research (DUSA (OR)) (Member)

**3.6** Principal Deputy, Assistant Secretary of the Army (Manpower and Reserve Affairs) (ASA MRA) (Member)

**3.7** Deputy for Resources and Military Support, Office of the Assistant Secretary of the Army for  Installations, Logistics, and Environment (ASA (IL&E)) (Member)

**3.8** Deputy Chief of Public Affairs (PA) (Member)

**3.9** Assistant Judge Advocate General, Military Law and Operations (Member)

**3.10** Director for Information Management, DISC4 (Member)

**3.11** Deputy Chief of Engineers (Member)

**3.12** Principal Deputy, Assistant Secretary of the Army (Financial Management and Comptroller) (Member)

**3.13** Technical Advisor, Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS) (Member)

**3.14** Assistant Deputy Chief of Staff for Personnel (ADCSPER) (Member)

**3.15** Director, Logistics Integration Agency (ADCSLOG) (Member)

**3.16** Assistant Deputy Chief of Staff for Intelligence (ADCSINT) (Member)

**3.17** Deputy Assistant Chief of Staff for Installation Management (DACSIM) (Member)

**3.18** Deputy Director, Program Analysis and Evaluation (DPAE), (Member)

**3.19**  Chief of Staff, U.S. Army Forces Command (FORSCOM) (Member)

**3.20**  Chief of Staff, U.S. Army Materiel Command (AMC) (Member)

**3.21**  Chief of Staff, U. S. Army Training and Doctrine Command (TRADOC) (Member)

**3.22**  Chief of Staff, U.S. Army Medical Command (MEDCOM) (Member)

**3.23**  Deputy Chief, Army Reserve (Member)

**3.24**  Deputy Director, Army National Guard (Member)

**3.25**  Contractor Representative (Observer)

**3.26**  Other participants, as invited.

### 4.  ESC Working Group:

An ESC Working Group will mirror the ESC, serve as the action-level support to the ESC, and will monitor progress concerning specific actions and policies required to develop, test, and field AKO and the OCTP.

**4.1**  ESC Working Group Responsibilities.  ESC Working Group team members serve as key representatives for their communities of interest with a thorough understanding of AKO potential benefits.  They also monitor progress concerning specific actions and policies required to develop, test, and successfully field AKO and the OCTP. Specifically, they:

  **4.1.1**  Serve as catalysts for integrating the AKO and OCTP efforts, ensuring that OCTP applications support AKO program objectives and meet the Army's short and long-term needs for analysis.  They provide this information and guidance to the AKO Executive Steering Committee (including priority and funding recommendations) as required.

  **4.1.2**  Serve as AKO functional representatives, recommending functional requirements, processes, systems, models, experts, and other knowledge elements as necessary.

  **4.1.3**  Ensure involvement of key parties during KM assessment and planning phases.

**4.1.4** Track functional process improvements resulting from AKO implementation, recommending appropriate changes to maximize AKO benefits.

**4.1.5** Review and make recommendations to the AKO Army-wide strategic plan.

**4.1.6** Resolve conflicting priorities among functional requirements and between OCTP model development and support requirements.

**4.1.7** Monitor the accuracy of the OCTP and AFM functional databases; insure that ongoing database management follows a disciplined approach.

**4.1.8** Serve as informal leaders of the transformation of the Institutional Army into a streamlined information-age organization.

**4.2** ESC Working Group Membership. The Director, Strategic and Advanced Computing Center (SACC) will serve as co-chairman of the ESC Working Group along with an appropriate representative from the Office of the Director of the Army Staff (DAS). ESC Working Group composition includes:

**4.2.1** Director, Strategic and Advanced Computing Center (SACC), ODISC4 (Co-Chairman)

**4.2.2** Representative from Director of the Army Staff (DAS) (Co-Chairman)

**4.2.3** Functional representation from each office represented on the Executive Steering Committee.

## 5. Operations:

**5.1** The AKO Executive Steering Committee will be a standing GO/SES committee.

**5.2** The co-chairmen will provide minutes to the Secretary of the Army and the Chief of Staff of the Army, to committee members, and to other executives at HQDA and the MACOMs as necessary.

**5.3** Army Knowledge Online is the preferred method of communication among committee members. Members will receive advanced notification of meetings with proposed agendas.

**5.4** Frequency of Meetings:

**5.4.1**    The AKO Executive Steering Committee will meet as directed by the co-chairmen, but not less than twice per year.

**5.4.2**    The ESC Working Group will meet as requested by the ESC Working Group Chairman, but not less than twice per year.

**5.5**    <u>Administrative Support</u>:

**5.5.1**    The DISC4 will provide all administrative support.  Organizations sending representatives to the Army Knowledge Online Executive Steering Committee meetings will bear costs associated with TDY, travel, and per diem.

**5.5.2**    The DISC4 is designated as recording secretary with responsibilities for AKO project issues and AKO proponency issues respectively.

<u>**6.   Effective Date:  TBD**</u>

**Appendix B**
**AKO Change Management Plan**

# Appendix B
# AKO Change Management Plan

## 1    Introduction

This appendix presents the change management strategy that will be used to guide implementation of the Army Knowledge Online XXI (AKO) project.  It includes an introduction to change management concepts and principles and discusses three activities that are vital to the successful implementation of new knowledge processes and tools: communications, training, and user support.  This strategy also identifies key Army interests that must be addressed and managed, proposes alternative communication activities and venues, and describes planned training and user support arrangements.  In addition, this document discusses the importance of rewards and reinforcements in promoting successful change, and describes important change agent roles and responsibilities.

## 2    Change Management Concepts

Change management is the continuous process by which an organization effectively responds to changing business requirements, opportunities, or threats.  This process requires the ongoing coordination of four key management levers: strategy, operations, culture, and reward.  The concept of change management is rooted in the principle of continuous assessment and feedback on the people, processes, and systems within the organization impacted by change.  Through the use of a change management strategy and plan, organizations follow clearly defined activities and processes to institutionalize needed change.

Changes in business practices and organizational culture do not happen quickly. However, as experience and understanding increase, and individuals' beliefs and assumptions change, business culture and practices also change.  Experience has shown that significant change usually fails not due to poor conception, but to poor implementation.  Change that is not carefully administered will either fail or have unforeseen consequences.  To ensure the successful adoption of AKO knowledge management (KM) processes and tools, the project will develop and implement a robust change management program.

Figure B2-1, "AKO Change Management Framework," based on Kurt Lewin's Change Model, outlines how the AKO project will support the Army in the successful management of change associated with implementing AKO.
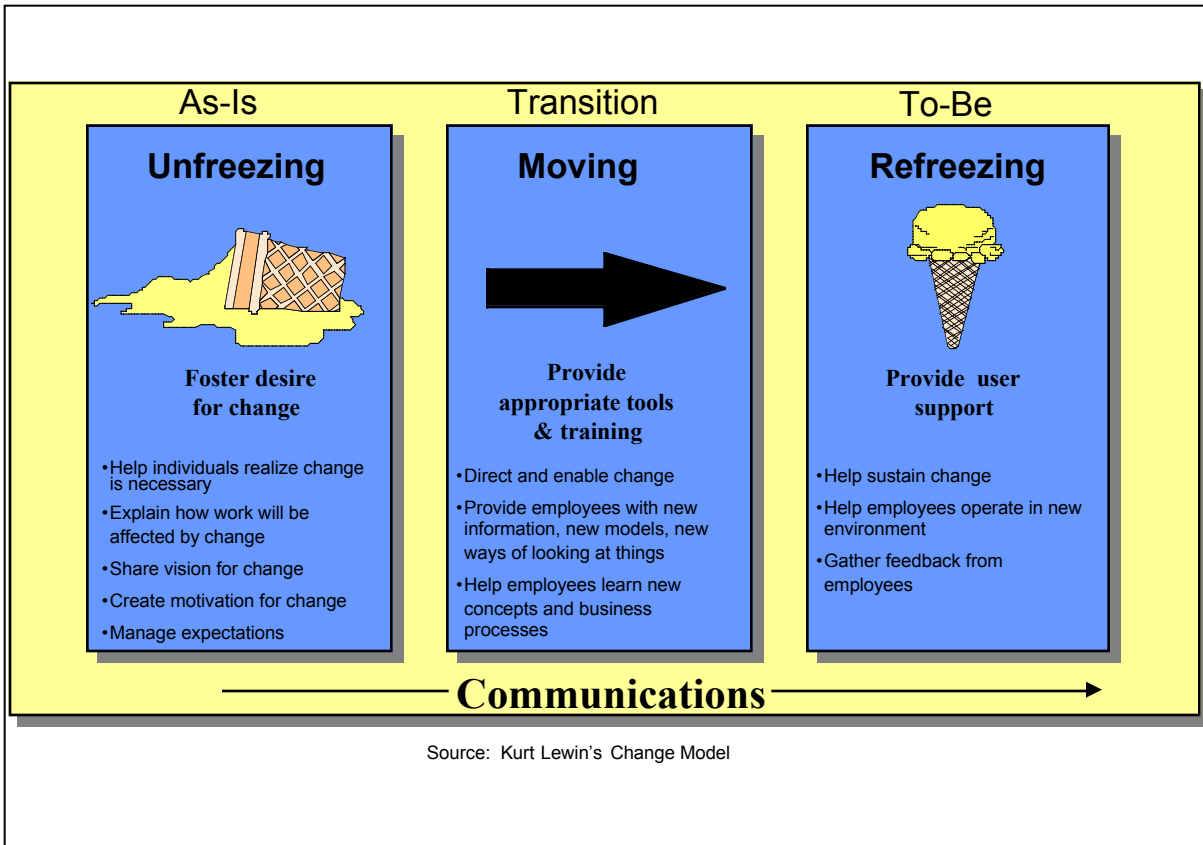
| As-Is | Transition | To-Be |
|---|---|---|
| **Unfreezing** | **Moving** | **Refreezing** |
| **Foster desire for change** | **Provide appropriate tools & training** | **Provide user support** |
| •Help individuals realize change is necessary | •Direct and enable change | •Help sustain change |
| •Explain how work will be affected by change | •Provide employees with new information, new models, new ways of looking at things | •Help employees operate in new environment |
| •Share vision for change | •Help employees learn new concepts and business processes | •Gather feedback from employees |
| •Create motivation for change | | |
| •Manage expectations | | |

**Communications**

Source: Kurt Lewin's Change Model

**Figure B2-1—AKO Change Management Framework**

Lewin's model highlights the importance of three distinct change management activities, including communications, training, and user support. Ongoing, consistent communication regarding the AKO project is requisite to a successful implementation. Training will ensure that Army soldiers and employees receive appropriate education in KM concepts and the AKO tool, while effective post-implementation support will help to sustain the change. Together, these initiatives will encourage widespread support for the project.

In the sections that follow, we present our approach to managing communications, training, and user support for the AKO project. Our approach to each reflects a set of common steps as follows:

- Establish Objectives

- Identify Audience(s)

- Develop Messages/Content

- Plan for Execution

- Evaluate Success

## 3   Communications

Communication plays an important role in all phases of change management.  In the "As-Is" phase of the change management framework, communication is intended to foster the desire to change.  It is here that the messages directed to the Knowledge Centers (KCs) will shape workers' desire to grasp new concepts and tools under the AKO project.  During the "Transition" phase of the process, the focus on communication changes to articulation of more specific information about AKO and the status of implementation.  Lastly, in the "To-Be" phase of the process, communication is refocused to encourage users to pursue new uses of AKO.  At this phase in the process, a feedback loop is often developed to invite comments and suggestions about the AKO project.  The first step in pursuing communications is to develop a communications plan.

Developing a communications plan is an important part of any change management strategy.  A communications plan lays out the strategies and activities required to develop consistent messages about the AKO project for stakeholders, users, as well as future project participants.  There are four dimensions to developing a communications plan:

- Establish communication objectives

- Identify audiences that need to be reached

- Develop messages that need to be included in communication materials

- Develop a strategy for monitoring and evaluating communications against the stated objectives

### 3.1   Establish Communication Objectives

Opinions about AKO have been formed, and new perceptions are being formed every day.  These opinions are formed based upon rumors, casual observations, and assumptions.  People will continue to form new impressions whether or not a communications program is in place.  However, a communications program that is well developed and properly executed will pay high dividends in the form of accurate impressions and supportive opinions among the target audience.

AKO seeks to transform the Army institutional elements and operating forces into an information-age, networked organization that leverages its intellectual capital to better organize, train, and equip a strategic land combat Army force.  To accomplish this objective, AKO must begin by achieving the following communication objectives:

- Present a clear, concise, and consistent message about AKO--Although individual communication initiatives are underway within each pilot KC, an overarching AKO communication plan is critical to delivering a clear and compelling message.  The AKO project has developed this strategy to

provide an unambiguous approach to communication that in turn will provide a consistent outcome.

- Reach geographically dispersed target audiences--Through development of various types of communication materials and by leveraging both official and unofficial Army communication venues as appropriate (for example, Armed Forces Radio and Television Service, Parameters, Army Times, and so forth), individuals located in remote regions of the world will have access to information related to the AKO project.

3.2   Identify Audiences

Initially, the AKO project is targeted at those KCs participating in the pilots: OPMD-XXI, DAMO-FDJ and PEO-C3S.  As these pilots conclude, the expansion of the AKO project to new KCs will begin.

Communications will focus on two distinct audiences within the Army organization, the general Army population and specific KCs.  Communication across the Army is important to ensure employees are aware of the project, its goals and objectives, potential benefits, the expansion plan, how they can participate, and timetables for implementation.  Regular messages targeted at this audience will begin once the project has commenced.

Communications specifically targeted to the KCs is equally important.  Ongoing communication with this audience starting early in the project implementation stage will provide detailed information about how the AKO project will impact their work processes.

3.3   Communications Team

To ensure development of effective communication materials that are consistent with Army messaging strategies, the AKO project will assemble a dedicated communications team.  This team will include representatives from the following organizations:

- AKO Project Functional Proponent

- AKO Project Materiel Developer

- AKO Individual KC Advocates

- Office of the Chief of Public Affairs

- Contractor Change Management Support

The AKO Communications Team will be assembled prior to commencement of implementation activities and will seek to leverage the expertise of each team component during development of the full range of required communication materials.

3.4    Develop Communication Messages

Consensus building among the Army leadership on the value of KM will be a critical beginning of an effective communications strategy.  In this regard, the AKO project should be an agenda item for the CSA Commanders' Conferences

The AKO Change Management program will identify specific communication initiatives to ensure effective messages and media for each purpose and audience.  To ensure effective penetration with the AKO message, several methods of communication will be chosen to reach the diverse worldwide audience.  The Communications Team will undertake the following initiatives, among others, as appropriate:

| Initiative | Description |
|---|---|
| AKO newsletter | Develop a periodic publication to distribute to Army staff (ARSTAF) and other user organizations. |
| CSA message to encourage participation | Distribute written message from CSA to ARSTAF regarding the kickoff of the Knowledge Office. |
| Articles in Army specific publications | Publish articles for Parameters, Military Review, Army Times, and other Army publications. |
| Articles in Pentagon publications | Publish articles for the Pentagram and other Pentagon publications. |
| Business cards | Produce and distribute business cards with the AKO Web address, and POC or help desk telephone number. |
| Brochures | Develop and distribute brochures describing AKO and how to gain access. |
| Chat sessions | Host scheduled chat session(s) on a periodic basis to discuss the status of the AKO. |
| Conference participation | Attend targeted conferences and demonstrate AKO functionality and benefits. |
| Executive briefing(s) | Establish executive briefing(s) that relay the AKO message and serve as a catalyst to ensure the understanding of the AKO vision. |
| Information paper(s) | Develop and deliver information paper(s) for potential KCs describing the AKO and how it might impact them. |

| Initiative | Description |
|---|---|
| Links to AKO site | Establish links from other users' Web sites (such as Army Home Page, various MACOM home pages, and so forth) to AKO Home Page. |
| Media Clips | Develop media clips for AFRTS. |
| Posters | Develop posters with the AKO Knowledge Office Web address, logo, with POC, and help desk telephone number |
| AKO Display Booth | Develop an AKO Display Booth to transmit the project's message at conferences, meetings, and other gatherings |
| Quick Reference Guide(s) | Develop high-level guide(s) to support users in system access and functionality, will include user support information available. |

**Figure B3-1—Potential AKO Communication Initiatives**

## 3.4.1  Effective Communications

Effective communications leverage three dimensions: content, graphics, and medium.  The Communications Team will be guided by the following principles as they apply to these three dimensions:

- **Content**—Content will be significant and informative in nature. Formalizing and initiating a regular communication vehicle, such as a newsletter, creates a set of expectations from the targeted audience. Therefore, the information contained in the communication vehicle is very important.  Communicating the wrong message will quickly discredit the AKO initiative, making it more difficult for important content to have credibility.

- **Graphics**—Graphics, and colors play a pivotal role in message management. The graphic presentation of the content is critical and is the first (and most lasting) impression people will have.  In that communication media shape many perceptions, it is imperative that all communication initiatives be delivered in world class manner.  Therefore, it becomes very important that all communication initiatives be well constructed and thought out.

- **Medium**—The medium that is used to carry the message is another critical decision in any organization.  Newsletters, brochures, media clips, and related paper-based tools are invaluable. The style and overall "look" of a publication needs to be consistent with all other ongoing communication initiatives related to the topic.

3.5    Message Development

As depicted in Figure B3-2, "Communications Message Development Process," there are four fundamental steps to developing communications material.
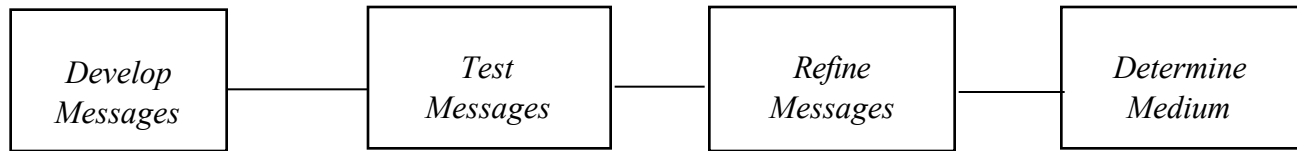
| *Develop Messages* | *Test Messages* | *Refine Messages* | *Determine Medium* |
|---|---|---|---|

**Figure B3-2—Communications Message Development Process**

Each of the following steps in the message development process is important in the creation of effective communication materials:

- **Developing messages**—Messages used in communications need to be clear and concise.  The Communications Team, in developing these messages, needs to develop value statements.  These statements declare the benefits that the AKO project provides.  They answer the question "What do we want the user to think about AKO?"  In developing the messages, writers must ensure a narrow focus.  Experience has shown that individuals will only remember three or four thoughts related to a particular element.  Therefore, messages related to AKO should be limited.

- **Test messages**—Once messages have been developed, they need to be tested for effectiveness.  In order to test the messages thoroughly, it is important to select a diverse group of individuals to perform structured analysis and provide feedback for message improvement.

- **Refine messages**—Subsequent to message testing, the AKO Communications Team will modify the messages to incorporate comments.

- **Determine medium**—After messages have been fully developed and polished, the AKO Communications Team will select the appropriate medium.  The medium selected will incorporate the AKO messages and a consistent "look" associated with the project.

Early communication initiatives that the project undertakes will convey the following points about AKO to field users:

- Why AKO was developed

- How AKO will/will not impact people, organizational structure, and culture

- Optimal use of a KM tool

- Benefits the use of AKO provides

To support each initiative, the Communications Team will develop specific materials and present them to the project AKO Functional Proponent for approval before production and distribution. Project-level communication on a monthly basis will be established through a project-level newsletter. Once operational, the newsletter as well as all other communications will be monitored on an ongoing basis for effectiveness. As situations change, so must the communication efforts and initiatives. The AKO project will assess when adjustments are essential and make modifications as appropriate.

3.6    Communication Execution Plan

3.6.1    Message Delivery:  Overall (general) Army versus KC Specific Audiences

The delivery of communications for AKO will use two approaches: opportunistic and focused. Outreach to *general Army audiences* will be **opportunistic** in nature. Under the opportunistic approach, briefings and presentations in support of the AKO communications plan will be executed following these guidelines:

- AKO briefings and presentations will be scheduled as opportunities arise

- Opportunities for briefings and presentations may result from

- AKO project relationships with Department of Defense (DoD) officials

- Pilot KC users' relationships with other KCs

- AKO project relationships with other potential KCs

In communicating the message to the general Army audiences, the AKO project will follow these guidelines:

- Within the Army, the AKO message will be targeted to specific audiences:

  - Commanders

  - Soldiers

  - Civilian Staff

- Within the general Army audiences, the AKO message will be delivered by several means:

  - Chain teaching

  - Participation in conferences

  - Publications

  - Army Times

  - Army Home Page

  - Briefings

The AKO communication effort for *specific KC audiences* will be **focused** in nature. Communication executed under the focused approach will be driven by the following guidelines:

- Communication will identify target segments

- Communication will transpire based on established target dates for execution

- Communication will be flexible enough to adjust to

  - Mission changes

  - New requirements

  - Changes in emphasis

  - Command desires

- The communication plan will be a "living document" and updated as required

A key challenge for the AKO Communication Team is to ensure that project-level communications and those associated with individual KCs are consistent. For example, the outreach activities at the project level may be different from the outreach activities needed for the individual KCs. However, the Communications Team will ensure proper coordination and consistency of all activities and messages. Initially, coordination will occur through regular bi-weekly conference calls. As the AKO project develops further, we anticipate that the conference calls will transition to an on-line discussion forum.

The communication initiatives tailored to individual KCs will be primarily educational in nature, and will emphasize the following:

- Introducing prospective KC users to KM

- Educating prospective KC users about AKO processes and capabilities

- Educating prospective KC users about potential benefits

- Promoting usage of the KM tool as a vehicle to address AKO KC business challenges

- Sharing KC status reports

- Publishing availability of training opportunities and schedules

- Publishing availability of user support

- Establishing a feedback mechanism

Regularly scheduled communication activities at individual KCs will vary based on need. Examples include newsletters, discussion groups and the "what's new" capability available through the AKO Web site.

In communicating the message to the specific KC audiences, the AKO project will follow these guidelines:

- Within the KCs the AKO message will be targeted at specific audiences:

  - OPMS XXI Staff:

    - Career Field Designation Year Groups
    - Career Mentors

  - PEO Staff:

    - PMs at the PEO
    - Officers

  - DAMO/FDJ Staff:

    - Other Army Staff:
    - Army MACOMs
    - ARSTAF
    - Joint Staff

- Other External Staff:

    - CINC Staff
    - DOD Services

- AKO KCs

    - AKO KC Advocates
    - Users

- Within the KCs, the communication message will be delivered by:

    - Briefings (using the executive brief)

        - Activity-level informal presentations (ad hoc)
        - Conferences
        - Professional meetings

    - Articles in printed media

        - Army Times
        - Post newsletters

    - During KC training/coaching activities

        - By AKO Project Staff
        - By KC Managers
        - By posting the communication message on the Army Home Page

In communicating the message, we will pursue existing opportunities to reach large audiences. Although these opportunities tend to be characterized by one-way communication, available venues will be leveraged to communicate with large-scale target audiences.

### 3.6.2 Key Communication Success Factors

The following items are key to a successful communications program for AKO:

- Communication plan development needs commitment and buy-in from the AKO Functional Proponent, AKO Materiel Developer, and Executive Steering Committee (ESC).

- The AKO Functional Proponent, AKO Materiel Developer and the ESC should think of communications as an investment.

- The communicated message must be consistent.

- The communication method must include an assortment of collateral material (such as posters, business cards, and so forth) for distribution to various audiences and stakeholders.

- Communication materials must provide readers with a feeling of confidence about AKO.

### 3.7  Evaluating Communication Success

Given the importance of good communications to the successful implementation of AKO within the Army, it is important that the effectiveness of communications activities be measured. To this end, the AKO project will develop measures to assess the impact of communications given the objectives of presenting clear, concise, and consistent messages and efficiently reaching geographically dispersed audiences.

Measurement of the effectiveness and consistency of communications messages, as well as the efficiency of various channels, will require the use of surveys and other feedback mechanisms. Methods for measuring success in reaching widespread audiences may include random surveys among the targeted audience. At this time, the AKO project has not developed specific performance measurement indicators to measure the effectiveness of communications. However, these measurement indicators may be developed with either internal or contractor support. To the extent possible, these measures should be objective and quantifiable. Data gathered through the defined measures will allow adjustments to be made to the plan as the situation merits. The AKO project will continuously assess when adjustments are necessary and make modifications as appropriate.

## 4  Training

AKO introduces new business processes and tools to KC users. These processes and tools allow users to share information more effectively across geographical and organizational boundaries, to easily identify and communicate with subject matter experts (SMEs), and to collaborate more effectively while developing documents or addressing management or operational issues. However, because these processes and tools are new, proper training prior to implementation is crucial to the success of the AKO project. The AKO project will provide the right training, for the right audience, at the right time. This will require the project to address the challenge of training a diverse community of users located in widely dispersed geographic regions. To do so, the project will follow a standard approach as presented in this section.

### 4.1  Establish Training Objectives and Identify Target Audiences

Training is an essential component of the "Transition" phase of the AKO change management process. Throughout this phase, new users will be provided with

information to help them learn the new processes and tools they will use in their jobs. During the "To-Be" phase of this change management process, especially following completion of the pilot phase, the need for ongoing training will decrease and likely will focus on introducing new tools.

The first step in developing and implementing a training program involves establishing a clear set of objectives for the training. This usually requires planners at the same time to identify and profile the target audience so that training objectives and audiences are properly aligned from the beginning.

The types and level of training new users will require depend to some extent on the roles and responsibilities they will hold with respect to AKO within their KC. It also depends upon the level of experience new users have with computers and Web-based tools. The program will ensure that each training initiative begins with establishing clear objectives that are appropriate to the target audience. Each training document or presentation will begin by describing its target audience and stating the applicable learning objectives.

**4.2**   Develop Training Content

The AKO project will develop training materials that meet the requirements of the various roles and responsibilities associated with AKO. These materials will address the needs of users (with varying levels of access), domain (or database) managers/owners, and Knowledge Officers. Because users will have various levels of experience with computers and internet/intranet tools, a combination of training formats will be utilized to introduce the AKO tool. As seen in Figure B4-1, "Training Context," these include but are not limited to the following:

- Basic Orientation Program

- Supplemental KC-Specific Training Materials
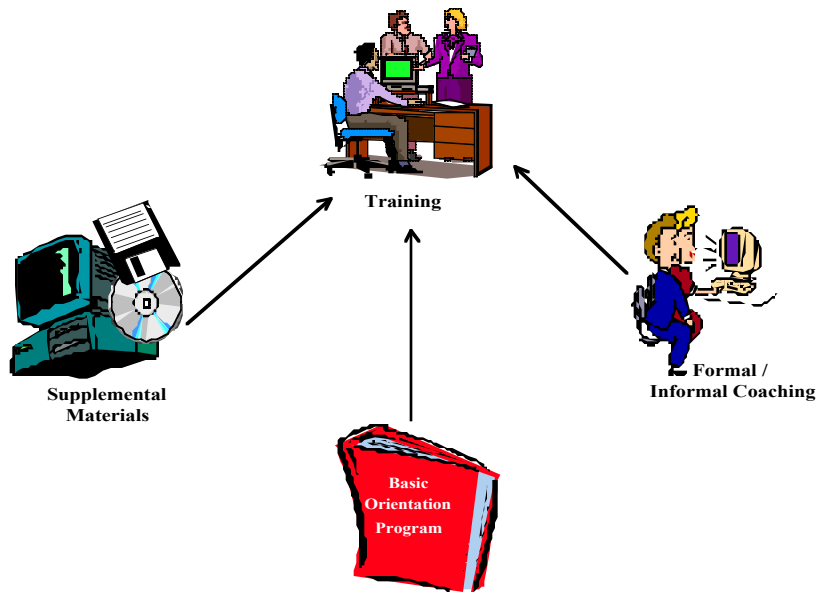
- On-line Tutorials

- Formal and Informal Coaching

**Figure B4-1—Training Context**

The AKO project will develop a basic orientation program for new users. This orientation program will describe access procedures, discuss security precautions, provide an overview of KC roles and responsibilities, and explain AKO processes and tools. The project-level orientation will serve as the basic training component for AKO.

As appropriate, the project also will develop supplemental training materials tailored to the needs of specific KCs. The project will work closely with the KCs to identify the appropriate training regime. Since KC users are located all over the world, training true novices on the capabilities of AKO could be a formidable task. However, the AKO Functional Proponent will develop training materials that are easily understood and, wherever possible, "stand alone." The project also will provide on-line tutorials for key functions of the AKO tool. These on-line tutorials will walk users through the key features of the tool and will provide specific instructions on how to use these features.

Finally, the AKO project will identify key users within each KC who can serve as coaches for both novice and more experienced users. This will be valuable both when the tool is launched in new KCs as well as over time as new employees join organizations that have already launched their own KCs.

4.3    Training Execution Plan

Once the basic training materials are developed, the AKO project will seek to implement the training by leveraging existing Army processes and venues to the greatest extent

possible.  The project will work with individual KCs to determine the appropriate venue for early orientation sessions and whatever hands-on support is necessary.

Training processes such as chain teaching may prove useful as the project grows beyond the ability to make direct contact with all users within the new KCs.  However, many KCs will make all or part of their knowledge environments available to a wider audience of Army users outside of the KC.  Such users may require, at a minimum, a formal orientation to the basic AKO environment.  Possible venues for providing this training include:

- Advanced Non-Commissioned Officer Course (ANCOC)

- Sergeants Major Academy (SMA)

- Officer Basic Courses (OBC)

- Officer Advanced Courses (OAC)

- Command and Staff College (CSC)

- Army Management Staff College (AMSC)

- Senior Service College

The level of training in each of these professional development courses will vary based on both the audience that is targeted and the degree of KM sophistication desired as an outcome of the course.  This will be determined by each school's front-end analysis during curriculum review.  Additionally, the level of training will increase as KM becomes more widely adopted throughout the Army, similar to the fashion in which automated information system technology was introduced in the TRADOC school system.

4.4    Evaluating Training Success

The AKO project will evaluate its training efforts to rate their effectiveness and to guide adjustments to approach as appropriate.  This evaluation will rely primarily on formal surveys provided to training recipients.  For formal presentations, the survey instrument will be provided at the end of each session.  To elicit feedback as to the effectiveness of on-line tutorials, a feedback form will be included in the tutorial itself.  Periodic surveys of those receiving formal or informal coaching will be used to gauge the effectiveness of this assistance.

## 5    User Support

User support is a fundamental component in the "To Be" phase of the change management framework.  Throughout this phase, users of the various tools implemented

under AKO will require periodic assistance with issues ranging from registration to tool functionality and maintenance. User support criticality can be better understood in the context of the growth plan for AKO:

- By end of FY 98 = 10,000 users
- By end of FY 99 = 25,000 users
- By end of FY 00 = 50,000 users
- By end of FY 01 = 100,000 users
- By end of FY 02 = 250,000 users
- By end of FY 03 = 500,000 users
- By end of FY 04 = 750,000 users
- By end of FY 05 = 1,000,000 users

Because this project is new, a user support network or help-desk has been developed to serve as a vital supplement to user training. Together, training and user-support provide the cornerstone for a successful implementation of the AKO project. The user support network or help-desk helps knowledge centers to fully realize the tool's capabilities. However, this level of assistance requires the project to address several key questions pertaining to funding and staffing prior to the implementation of the first knowledge center. These questions include:

- What specific types of user support will the project seek to provide?

- How much of this support will be centralized versus decentralized (i.e., to individual KCs)?

- How will user support be funded and staffed?

- How will the project ensure equal responsiveness to a geographically dispersed Army staff?

- How will the project provide a seamless support mechanism to provide answers to questions related to security, process, Army Online certification and registration, etc.?

The following sections discuss how the AKO project will plan for user support.

5.1    Establish User Support Objectives and Audience

While training is effective in educating users on the capabilities of AKO and the supporting knowledge processes, training will not address all user needs. Ongoing user support is essential to ensure that users throughout the Army have adequate support when needed. The first step in developing and implementing a user support network involves establishing clear objectives for the support. Second, the project must clearly identify the target audience for planned support. For example, while a help-desk can

provide a wide range of support to new users of AKO tools, a help-desk is not the appropriate resource for process-related knowledge consulting.

5.2    Develop Plan for User Support

It is critical that a user support function be in place prior to implementation of any knowledge center.  Once the objectives and audience have been determined, the next step in planning for user support will be to determine the level of support needed and how this function will be provided, staffed and funded.  If not from the beginning of implementation, support eventually may be required on a twenty-four hours a day, seven-days a week basis to accommodate KC users worldwide.  This assistance can be offered through a variety of means, ranging from 800 number support to on-line support.  At a minimum, the user support function should provide assistance in the following areas:

- User registration and certification

- Connectivity

- Functionality

- Performance

A decision will need to be made soon whether current Army staff will support this function, if new staff will be hired, or if staffing of this function will be outsourced to a contractor.  This decision will be driven in part by the level of support provided and whether the project adopts a centralized or decentralized approach to user support.  A decentralized approach would distribute support responsibilities among individual KCs or groups of KCs, while a centralized approach would seek to establish a single source of user support.

To supplement personal user support, the AKO project has develop a quick reference guide that provide key information on how to use AKO tools and how to obtain assistance.  This quick reference guide has been developed in multiple versions, as appropriate, to address KC-specific information needs.  Finally, the project team has developed a user manual that builds upon the basic orientation program to provide more comprehensive information on AKO processes and tools.  The user manual will be made available on-line to all registered users of AKO.  Both the quick reference guide and the user support manual will be used by KC users as the first line of defense in problem resolution.

5.3    User Support Execution Plan

The Army Online and the AKO projects will work together to develop and implement support processes and procedures to assist in the implementation of AKO.  Depending

upon final staffing arrangements, this support will be provided using a two-tier philosophy.

First tier support will come from Army Online staff and will be focused on connectivity issues and triaging other queries. Army Online staff will forward questions specific to knowledge center processes and business to specific knowledge center contacts. The staff will direct questions related to AKO access, functionality, or performance to AKO contractor support staff.

### 5.3.1 Key User Support Success Factors

The following are key success factors for AKO user support:

- Response time—The time it takes to contact a knowledgeable person who can address the question must be reasonable

- Resolve time—The time it takes to get the problem fixed must be reasonable

- Incidence of need—Users typically should not require assistance to execute rudimentary tasks

### 5.4 Evaluating Success of User Support

Due to the impact that appropriate user support activities have on the successful rollout of AKO throughout the Army, it is important that the effectiveness of these activities be measured. To this end, the AKO project is developing measures based upon system statistics, user survey responses, and on-line user feedback. (Performance measures have not fully been defined for the user support function.) To the extent possible, measures will be objective and quantifiable. The data gathered through the defined measures will allow adjustments to be made to the support program as the situation changes.

## 6 Rewards and Reinforcement

Without motivating factors it is difficult to get people to change the way they work. Change is widely accepted when there is a reward for accepting the transition and moving the focus toward the future state. Both monetary and non-monetary rewards reinforce the desired culture an organization is trying to adopt.

When developing a change strategy based on reward and reinforcement, it is important that a shared-fate environment be developed. That is, it is important to develop an atmosphere in which employees understand and commit to organizational goals and values. Prior to implementation of AKO within the three pilot KCs, the project will submit to the ESC a proposal for providing rewards and reinforcement for active adoption of KM processes and tools. Active adoption will be measurable in terms of demonstrable

business impact. The goal of the project will be to identify measurable improvements that are directly attributable to AKO and to reward those responsible for leveraging these tools to achieve the improvements. In addition, the goal will be to share these success stories with other KCs as well as organizations that have not yet undertaken a KM initiative, thereby encouraging more widespread adoption of the AKO as a platform for doing business.

## 7 Roles and Responsibilities

It is essential that all organizations and individuals that will execute the AKO change management program understand their respective roles and responsibilities. To ensure proper execution of the various change management activities suggested in this strategy, it is important that all the entities work together as a team. AKO will require assignment of the following roles and responsibilities to ensure successful execution of the change management strategy and plan:

- AKO Executive Steering Committee

  - Provide executive guidance on integration of AKO throughout Army

  - Serve as advocates of AKO project and KM as an Army-wide discipline

- AKO Functional Proponent

  - Executive functional guidance

  - Executive functional oversight

  - Approval of required communications materials

- AKO Materiel Developer

  - Executive technical guidance

  - Executive technical oversight

  - Approval of technical communications

  - Executive support

- AKO KC Advocates/Managers

  - Project support

  - Communications support

- Training and help desk planning

- AKO representation at professional conferences and events

- AKO spokesperson for individual KC

- Technical integration for individual KCs

- Office of the Chief of Public Affairs

  - Communications program support

  - Guidance in developing Army communications

  - Support in posting communications materials via existing medium

**Appendix C**

**References**

# Appendix C
# References

- Army Electronic Commerce Strategic Plan

- Army Electronic Commerce Strategic Plan

- Army Regulation 11-32, Army Strategic Planning Process

- Army Regulation 380-19, Information Systems Security

- Army Regulation 70-1, Army Acquisition Policy

- Army Vision 2010

- Creating Corporate Instinct: Building a Knowledge Enterprise for the 21st Century, Thomas Koulopoulos, The Delphi Group

- Government Performance and Results Act, 5 United States Code (USC) 306

- GPRA Performance Plan for FY99, DoD Annual Report to the President and Congress

- Installation Vision 2010

- Joint Technical Architecture—Army

- Kurt Lewin's Change Theory in the Field and in the Classroom:  Notes Toward a Model of Managed Learning, Edgar H. Schein, MIT Sloan School of Management

- OMB Circular A-11, Part 2, Preparation and Submission of Strategic Plans

- The Effective Executive, Peter F. Drucker

- Ushering in the Knowledge-based Economy, Carl Frappaolo, The Delphi Group

**Appendix D**
**Definitions of Key Terms**

# Appendix D
# Definitions of Key Terms

A key challenge to knowledge management is that definitions of what it is and the key terms surrounding it vary significantly.  As a result, before beginning a discussion of KM, key terms must be defined to ensure a common understanding.  The key terms requiring definition are:

- Relationship between Data, Information, Knowledge, and Wisdom

- Knowledge

- Intellectual Capital

- Knowledge Management

- Knowledge Worker

Also included is a discussion of KM drivers – the forces behind the majority of KM efforts, approaches to KM, and a discussion of the challenges KM addresses.

## 1    Relationship between Data, Information, Knowledge, and Wisdom

The Institute for Information Studies explained the relationship between data, information, knowledge, and wisdom in the manner depicted in Figure D1-1:
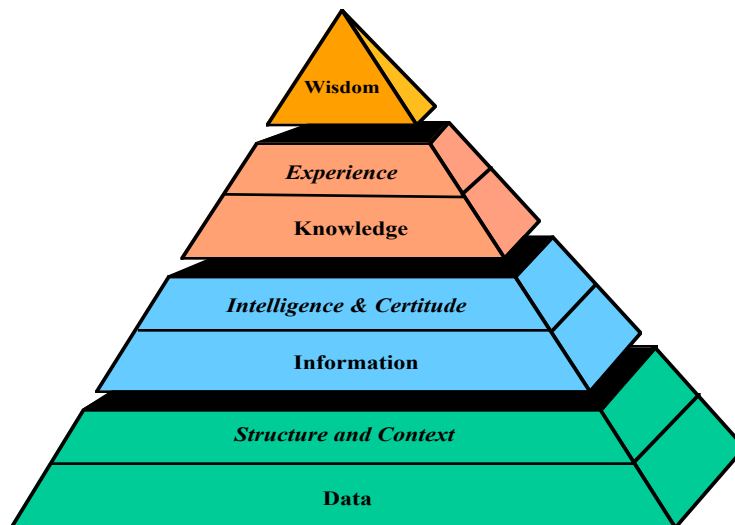
## 2    Knowledge

Knowledge can be viewed simplistically as information in a context that makes it actionable. The formal definition of knowledge is data and information in context, allowing the worker to better understand and be able to act on the nature, value or meaning of a subject. Knowledge can be imparted through experience or study. It is information on the "why," the "how," and/or the "what" of a topic.

According to the Yankee Group, knowledge falls into two broad categories – tacit knowledge and explicit knowledge. Tacit knowledge is the highly personalized understanding that one reaches over time in a particular discipline. This type of knowledge is not easily articulated, since it is internalized and employed so often that its understanding is assumed. Practices that build tacit knowledge are carried out in the company of others who share its understanding. Communication occurs at a level that is only understood by members of the group who share this unique bond of knowledge. While the act of communicating tacit knowledge outside of such a setting can be accomplished, it is most often built through active participation, combined with limited verbal communication. On the other hand, explicit knowledge is more formal and systematic. This type of knowledge is more easily articulated, or communicated, since it is often the result of a breakdown and systematic arrangement or codification of tacit knowledge.
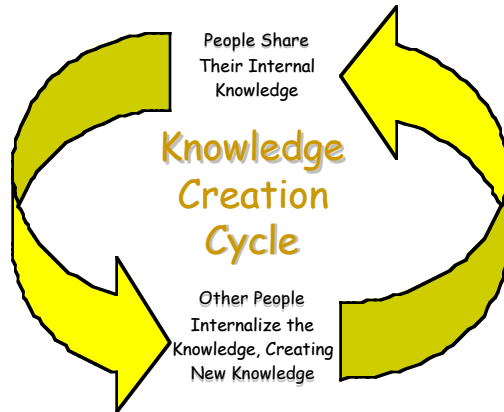


The concept of tacit and explicit knowledge was first conceived by Ikujiro Nonaka and Hirotaka Takeuchi in their book, *The Knowledge Creating Company: How Japanese Companies Create the Dynamics of Innovation*. They describe the process of creating knowledge as a spiral.  It begins with people sharing their internal knowledge through socializing (formally or informally) or by capturing it in digital or analog form.  Other people then study and internalize the shared knowledge, sparking a process within them that creates new knowledge.  Those people then share their knowledge with others and the cycle repeats again.  The process of dialogue, either in person or virtually via technology, creates knowledge that assists the organization in accomplishing its goals.

There are three commonly held views of knowledge. "Know What" knowledge consists of facts, figures, formulas and other knowledge commonly held.  It is easily captured and converted into digital form, and is by far the largest body of knowledge. "Know How" knowledge is embedded in processes or routines where the worker performing the task
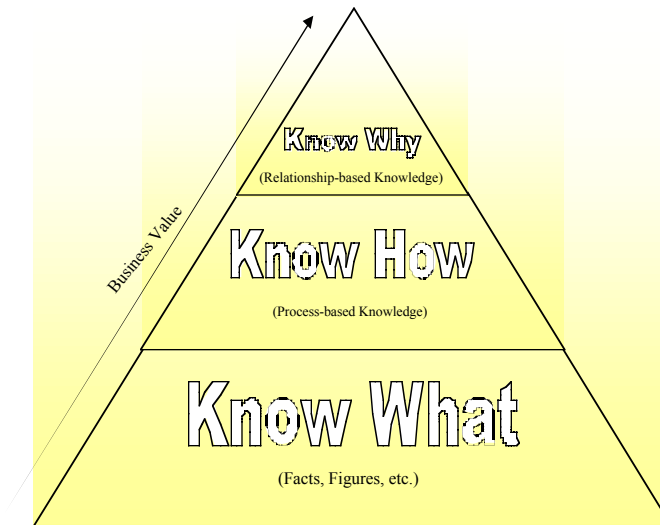
may be unaware of the knowledge, it being explicitly resident in the task.  Because it derives an inherent structure from the process, it is also extractable into digital format.


The highest knowledge level is "Know Why".  It consists of mental models that form dynamic relationships among various possibly non-associated pieces of information.  At this level, organizations are able to most effectively create and act upon knowledge.  This knowledge is very difficult to extract, requiring definition of the relationships themselves before it can be made meaningful.

## 3    Intellectual Capital

According to Kuan-Tsae Huang, Director of Global Intellectual Capital Management at IBM, intellectual capital consists of information, knowledge, assets, experience, wisdom, and/or ideas that are *structured to enable sharing for reuse and to deliver value* to customers and shareholders.  This definition distinguishes all the information and knowledge products we have ever produced from the best breed that can be reused to add value to the organization both internally and externally. Intellectual capital should meet some or all of the following criteria:

- Be reusable in a variety of contexts.

- Exemplify a unique, innovative concept, approach, or solution applied to a situation.

- Create or enhance a methodology, technique, or architecture.

- Provide unique and effective visual representations/graphics of concepts, processes, etc.

- Present a comprehensive, updated summary of information.

Examples of intellectual capital may include items such as:

- Best practices, know-how and heuristic rules

- Patterns, software code, business processes and models

- Architectures, technology and business frameworks

- Project experiences (e.g., proposals, workplans, reports, meeting agendas, presentations, designs, instructional materials, process maps, etc.)

- Tools used to implement a process such as checklists, surveys or questionnaires, models, templates, etc.

## 4   Knowledge Management

Knowledge Management (KM), as defined by Electronic Data Systems (EDS), is an organization-wide discipline that treats intellectual capital as a critical resource and a potential source of competitive advantage.  It is an integrated, systematic approach to identifying, managing, and sharing all of the enterprise's information assets, including databases, documents, policies and procedures, as well as previously unarticulated expertise and experience resident in individual workers.  Fundamentally then, KM is about making the collective information and experience of an enterprise available to the individual, who is responsible for using it wisely and for replenishing the stock.  This ongoing cycle encourages a learning organization, stimulates collaboration, and empowers people to continually tune the way they perform work.  The culture becomes one of "sharing is power", instead of "my information is power."

Gartner Group considers KM in three dimensions: relevance, dynamism, and community. Relevance refers to the value of the information received and evolved from information overload, providing too much information and too few answers.  Dynamism refers to the connection to the business process and evolved from the inability to access information stored in repositories across the organization.  Community refers to the scope of knowledge sharing and moves beyond the concept of group collaboration to a shared workspace and integrated, active sharing.

## 5      Knowledge Worker

Another important term to define is Knowledge Worker. Peter Drucker coined the term in his 1959 book, *Landmarks of Tomorrow*.  In essence it refers to workers who use knowledge-based processes to produce knowledge-based products rather than the manufacturing-based processes used to build the products of the Industrial Revolution. Drucker predicted in 1993 that by the end of this century knowledge workers would

make up a third or more of the work force in the United States. It is estimated that currently one in seven US workers could be classified as a Knowledge Worker.

These workers possess the following skills that enable them to achieve significant benefits that otherwise may not be fully exploited:

- Knowing the business operations in their area of responsibility, and perhaps across multiple areas;

- Understanding the structure and organization of the data sources used in the knowledge discovery process;

- Producing effective queries for many complex and detailed business operations;

- Investigating, exploring, and visualizing the results of the queries to determine their usefulness;

- Recognizing and reusing common patterns acquired from previous queries; and,

- Understanding theories, especially the theories used in data analysis.

Paul Strassmann stated the following regarding knowledge workers,

[Knowledge workers] are the carriers of Knowledge Capital of the organization. They are the people who leave the workplace every night and may never return while storing in their heads knowledge acquired while receiving full pay. They possess something for which they have spent untold hours listening and talking while delivering nothing of tangible value to paying customers. Their brains have become repositories of an accumulation of insights how "things work here" - something that is often labeled by the vague expression "company culture." Their heads carry a share of the company's Knowledge Capital, which makes them a shareholder of the most important asset a firm owns even though it never shows up on any financial reports. Every such shareholder of Knowledge Assets in fact becomes a manager, because information acquisition and information utilization are the essence of all managerial acts.